Occidental Medical Times.

Vol. X. NOVEMBER, 1896. No. 11.

SURGERY OF THE BRAIN.[1]

Abstracts of the Lane Course of Medical Lectures, inaugurated at Cooper Medical College, September 14, 1896.

By **William Macewen**, Regius Professor of Surgery in the University of Glasgow, Scotland.

Lecture No. 1.

The speaker said: The Lane Course of Lectures has for its object, to quote the words of the founder, "The annual introduction to Cooper College of an eminent authority on surgery or internal medicine, who will give a short course of lectures upon a subject of which he has made a special study." Although neither "eminent" nor an "authority," I am here in acceptance of an invitation from Cooper Medical College to deliver the first series of lectures, and I have to thank the President and the Board of Directors for the high honor which they have conferred by selecting me to inaugurate this course. While the choice of subjects has been left entirely at my discretion, yet a fairly broad hint has been conveyed that lectures on some department of brain surgery would be very acceptable. Had I been left entirely without guidance in this respect, it is possible that another branch of surgery would have been chosen, but I have much pleasure in complying with the specific hint so courteously conveyed.

In beginning the study of any region of the body, an intimate acquaintance with the structure and function of the part, is of the utmost importance to the surgeon. In the numerous text-books may be obtained an excellent knowledge of anatomy, as far as anatomy can be learned from books. While the form of the brain, as represented in the text-books, bears a general resemblance to that which it assumes, when removed and placed upon a flat surface, it is far from being exact. The brain shapes the skull accurately to its form and requirements. The cerebro-spinal axis is contained within its bony covering, as a specimen in a bottle filled with fluid. While floating in this fluid, it is held in position by processes of dura mater and by the nerves and their membranous coverings. When the brain is removed and laid upon a flat surface, this is followed, first, by a general retraction of the periphery toward the center, hence an alteration in the direction of a general rotundity of the more pointed parts, as the basal portion of the frontal lobe, becoming more rounded. Second, it becomes flattened by its own weight toward whatever aspect it lies upon.

---

[1] By special permission of Dr. Macewen and from manuscript revised by the lecturer.

The true form of the brain in relation to its envelopes is best seen in the frozen sections. Sections of this character show that the cerebellum ascends in the mesial plane between the cerebral hemispheres to about the level of the orbital roof, reaching about the level of the descending and posterior horns of the lateral ventricles. The cerebellum is also seen to penetrate considerably beyond the foramen magnum, surrounding the cord, and affording the vital centers an amount of protection.

Formerly there were great difficulties in explaining the apparent discrepancy in clinical observations of the symptoms arising from tumors situated in one or the other of the lateral cerebellar lobes. In some cases, the paralysis was on the same side as the lesion; in others with tumors similarly situated, the paralysis was on the opposite side of the body. The projection of the cerebellum, as seen in the frozen section, affords a probable explanation of this apparent discrepancy. The effect produced will depend upon whether the pressure transmitted to the cord, is below or above the point of decussation of the fibers of the motor tract; if above, the paralysis will be on the opposite side of the body from that of the lesion in the cerebellum. If the pressure were below the decussation, the paralysis would occur on the same side; and with pressure exerted equally above and below, both sides would be paralyzed.

In studying these frozen sections of the brain, we need not be surprised at the so-called "colds in the head" beginning in the nose, or that the organisms of influenza developing in the nose or extending to it from other parts of the respiratory tract may cause meningitis. A great majority, if not all cases of acute meningitis originate in pyogenic organisms, which find a lodgment in some part of the respiratory tract, and from there, have extended into the meninges.

The speaker here alluded to the beautiful architectural design by which the head is poised upon a point, the condyles, its weight being transmitted to the supporting elastic column, and while securely retained in position, is allowed the greatest freedom of movement with the minimum expenditure of force. The position and relations of the intracranial dural septa were next described and illustrated.

At its point of attachment to the skull, the dura does not form a right angle which would permit the reception of a portion of the brain, that, during violence to the head, might be caught and nipped. The sinuses, somewhat triangular in shape, are rigid tubes, and therefore totally dissimilar from other blood channels. They are always full of blood, and, after death, when the majority of veins are empty, the lateral sinuses remain full. When cut across, the sinuses can neither retract nor contract, as an artery, nor can they collapse, as does a vein. In striking contrast are the vessels of the pia mater, which must be handled with the utmost delicacy, and upon which the thinnest ligature can with difficulty be placed.

Formerly we always avoided going near the sinuses. Now we are forced to open them, and, if necessary, to destroy them. The manner, therefore, of arresting hemorrhage from them is of importance. This is done by first detaching from the skull the outer wall of the sinus and then invaginating it inwards into the lumen of the sinus. A tampon is then inserted and between the tampon and the inverted wall is placed a certain amount of powder (iodoform one part, boracic acid four parts). This facilitates the subsequent removal of the tampon by preventing adhesions.

In dealing with brain surgery, the extent of the subdural space must carefully be borne in mind. There is a continuity between the arachnoid spaces, the lymphatic spaces, the nerve sheaths, and the brain, extending down as far as the cauda equina. It will, therefore, be seen what an extensive surface is exposed to the invasion of pyogenic organisms, and how difficult it is to eradicate them. During life the vessels of the brain float in the cerebro-spinal fluid, so that their weight does not rest upon the brain. In the early stages of lepto-meningitis they may be seen floating in a sea of fluid only held by minute particles of membrane. This first stage of lepto-meningitis does sometimes end fatally, and it is well that the surgeon should bear in mind that the appearances by which it is easily recognized during life disappear after death, or are so greatly altered as to leave little trace of their presence. If this weblike membrane is contracted by disease, it has a most powerful effect in deadening cerebral sensation, as will be found in many instances of general paralysis.

Blood when effused into the subdural space may find its way downwards into the cerebellar fossa, surrounding the medulla. I have seen cases where this effused blood had extended from the top of the head to the lowest portions of the spinal canal. In these cases death occurs most frequently from pressure exercised by the blood clot on the respiratory center in the medulla. If, in operating, any of the pial blood vessels be opened, and an extensive hemorrhage should occur, before the vessel were secured, sudden death may take place from paralysis of respiration. This should especially be borne in mind as nowadays instruments, operated by motive power, are sometimes used in opening the skull.

The speaker illustrated this point by referring to a case which the autopsy determined to be of this character. The patient who had had a fall about a week previously had not lain down since the injury, as he had a sense of impending death upon assuming the recumbent position. Upon admission to the hospital he was, owing to the serious nature of his case, persuaded to go to bed, and within ten minutes was found breathing stertorously, death ensuing very shortly.

Lecture No. 2.

The speaker said: I should like now to turn your attention to the localization of the brain, as far as is known to us. On this diagram the leg, arm, face, speech, auditory and visual centers have been colored. These areas I have recognized and verified from my own experience. There are others which are fairly delineated in the dog and in the monkey, and it is presumed there are similar centers in man, but as they are, to my mind, doubtful, they have been left uncolored.

It must not be supposed that the brain is so easily mapped out as the colored pictures in the text-books would lead us to infer. The convolutions present so many varieties in the normal state that it is a matter of difficulty to recognize them, while in the presence of pathological lesions they may be displaced, obscured, or obliterated. This difficulty is increased when the surface can only be viewed through the comparatively small openings made in the skull for operative purposes. This displacement takes place not only on the surface, but in the interior of the brain, the ventricles being dilated or obliterated according to the direction of the pressure, and the lobes in some places being also displaced. This refers to tumors of the brain in which there is a distinct zone of demarcation. Unfortunately there are others, especially the gliomatous tumors, which infiltrate its substance, and which are very difficult to recognize from their similarity in color.

When the ventricles are greatly distended with fluid, and when this occurs in a young person whose skull is still thin, the fact can be easily demonstrated by the percussion note. You will find in tapping the skull that you have a note very clearly indicative of a hollow chamber. In many cases of rachitis we have edema of the brain, and there is a distinct difference in the percussion note. There is also this peculiarity: While in rickets the percussion note is always the same in any position of the head, in tumors of the brain, that have given rise to distension of the ventricles, this distension can be recognized by the fact that the percussion note is always clearest at the lowest level. We have, therefore, a means of recognizing these distended ventricles, especially when they are found in comparatively young subjects, and you will remember that tubercular tumors of the brain occur most frequently in children, and that the greater number of them are located in the cerebellar fossa.

Where we have an isolated tumor of the brain, which has, by pressure, caused considerable displacement of tissue, or if we have a blood clot inside of the brain from injury or from disease, we will generally find upon opening the dura a movement of the foreign body towards the surface of the brain. If, then, we make an incision down to the spot through the brain substance, the natural impulse of the brain will tend to cause the extrusion of the foreign body, and, whenever possible, I prefer to allow the natural processes to throw out this foreign body, instead of making prolonged incisions in an effort to remove it.

Where there is a lesion of the brain, although we may have localizing symptoms and localized effects, one does not always know to what extent the destruction of the brain may have reached. Pressure, even fluid pressure, constantly exerted will produce very serious effects. If, in removing certain tumors, this fluid escapes, the structures that have been supported by it will inevitably collapse, and this is one of our difficulties with regard to these tumors.

The speaker then exhibited a number of frozen pathological sections of the brain, showing the very great distension of the ventricles, sometimes occurring in hydrocephalus. In one of these cases, there only remained a thin coating of brain tissue lining the skull, the whole interior of the brain being completely filled with fluid. He said: Such specimens tell you better than words can, how serious it would be for any one to attempt to remove the fluid from such cases of hydrocephalus. If you did remove the supporting fluid, you would cause a collapse, and, what actually does happen, convulsions and death. There are many who will still experiment in this way with these cases. No doubt the cases are absolutely hopeless, but when they are of this description, the result of any operative procedure is inevitable. When the distension has reached a great degree, it is absolutely useless to attempt to remove the fluid.

Wherever we have difficulty, after the dura has been opened, with regard to the form of the special centers which we want to localize, we have another means of ascertaining the particular area. This is by the use of very minute electric currents. When applied to the motor centers of the brain, we get direct evidence of the area by the results exhibited at the periphery, the twitching of the muscles at the periphery. Unfortunately, there are areas in the brain which are not motor. We also find that in tumors or abscesses, the conductive fibers have been interrupted. Stimulation in these cases would be of no value. In 1861, Brocha's discovery of a limited area of the brain as the center of articulate speech, shook the notion formerly entertained of the unity of brain function. This was followed by the observations of Hughlings Jackson, and by those of Ferrier and Charcot. Ferrier demonstrated by direct experiment upon animals the truth of the views already advanced.

Shortly after these observations had been published, I had the opportunity of operating for a lesion of the brain occurring in Brocha's convolution, and I believe that this was the first operation performed for the relief of a brain lesion, diagnosed by the localizing symptoms. It was a case of abscess of the brain occurring in a comparatively young subject. We were certain that there was a suppurative action in the brain itself, but at first we were quite at sea respecting the special point in which it was located. In cerebral surgery, it is absolutely necessary to watch every phase of the convulsive movement, and also the whole chronicity of it. In this case, the convulsions were on the right side of the body, commencing in the face, and then involving the arm and the leg. At first, the patient was conscious during the seizure, but later, when the convulsions had become general, as they generally do when the irritation is extensive, he became unconscious. When consciousness returned, it was found he was aphasic. There was, therefore, very little doubt as to the position of the lesion. I proposed that we should open the brain and get at the abscess, but in consultation, this procedure was regarded as preposterous, and the operation, in consequence, was not performed. Subsequently, the parents consented that if the convulsions returned, they would permit an operation. The convulsions did return, but unfortunately the patient died in them. We obtained the consent of the relatives to perform the operation upon the cadaver, that we would have done upon the living subject. The third frontal convolution was exposed, and upon introducing a bistoury, pus welled out alongside the instrument.

The speaker then showed a drawing of one of the earliest tumors of the brain, upon which he had operated. This patient presented the usual manifestations of lowered cerebral function. She had a slow pulse, and while not aphasic, had great difficulty in finding words to express herself, answering slowly, and sometimes monosyllabically. It was not until convulsive seizures set in, that we found where the lesion was. We train our nurses to be of service with regard to these symptoms. The nurse in charge of this patient had noted that the convulsions always commenced with the side of the face; some were confined to that area. Others involved the arm also. We operated upon the facial center, and found a very large tumor projecting forward to the frontal lobes. That patient recovered and lived for about eight years, at the end of which time, with much difficulty, I had the opportunity of obtaining the brain, and a portion of the skull, showing that the whole tumor had been removed, and also that a considerable part of the brain had been "anchored," or fixed to the dura mater. A little later I shall have the opportunity of warning you about this anchoring of the brain to the cicatrix. This case is one of the earliest, possibly the first that has been operated upon for the removal of a tumor of the brain.

The speaker then showed a drawing of a syphilitic tumor, which he had removed, and which had produced a complete paralysis of the arm and leg—hemiplegia. He said a very great surgeon had criticized the removal of this tumor, asserting that everybody knew this case could have been relieved, by the very much more simple plan of administering a little iodide of potash and a little mercury. As a matter of fact, the published record shows that the case had been under observation for three years, first by five medical practitioners in Glasgow, all of whom had treated the patient by iodide of potash and mercury, then by a physician in the Royal Infirmary of Glasgow, who had treated her for three months without the slightest effect, and lastly by the speaker, who, prior to operation, had carried out the mixed treatment for quite a number of months, but with no result whatever.

In cases of epilepsy, it is very necessary to observe the proto-spasm, that is the first spasm of the fingers, the toes, the arm, or whatever it may be. The speaker here showed a diagram of a case in which he had removed four tumors from the toe center of the brain, the growths being situated at some distance from the surface. The patient, a child, had very often been whipped by her mother for screeching. The child would commence to screech without apparent cause, and would screech continually, crying out about her leg, or something like that. For this she was punished. In the hospital the child used to cry out in the same way, even in the middle of the night. Ordinarily she was a very good child, but when affected she would suddenly try to get hold of her toe and then screech for some minutes. Upon investigating, we found that first of all there was an extension of the great toe like a cramp. It was firmly extended and then the screeching would begin. Sometimes the seizure did not proceed further. At another time, after this proto-spasm, there would be a convulsive seizure of the foot, and often of the leg; sometimes it would go further, extending to the body, sometimes extending to the face on that side, but it always commenced in the great toe. This case recovered perfectly and there has never been any return of the symptoms.

I will now speak for a moment of lesions of another description. Wherever we are dealing with motor phenomena we have very complete indications. It is an easy thing to diagnose a case in which the arm or the leg or the face has been first implicated, but there are cases that depend upon the higher intelligence of man where experiments on the lower animals cannot help us. Physiologists have done a great deal by experiments on monkeys and on dogs with regard to the motor functions, but with regard to the higher intelligence, not being conversant with the language of the monkey nor of the dog, it is rather difficult to ascertain the full import of experimental research upon the lower animals. We must, therefore, depend upon clinical observation.

We find that what was at first supposed by Brocha to be a single center, the center of speech; where aphasia was located, is really the motor center of speech. Aphasia, however, is a much more complicated disease than was at first supposed. There are other parts of the brain that are concerned with vision and with audition. All the occipital lobes and the posterior part of the parietal convolutions are involved in the function of sight. Hemianopia is very distinctly marked and located at the posterior ends of the lobes. But we have in the angular gyrus, and in the brain immediately surrounding it, a very distinct location of what is called "word blindness," or psychical blindness. The person sees physically; the media are perfect, and yet he has no sense of seeing.

The speaker then, referring to a drawing, said that the case there illustrated was one of the first cases of word blindness that had occurred to him. The man had received an injury to the head many years previous to coming under observation. Of course, Dr. Lane will tell you that wherever you get an injury to the head you never know where it will end. In the text-books and in the journals are many cases of compound fractures and serious injuries to the skull, with damage to the brain, that have recovered. That means that they have gone out of hospital, well for the time being, but a great many of these cases will show subsequent mental defects. This patient, years after the injury, became affected with very great depression and pain in the head which was almost constant, and he had a very great desire to do something desperate, sometimes to commit suicide, at others homicide. He was to be sent to an asylum, but his attendant first sent him to me.

The case was carefully investigated by expert assistants, and we could find very little the matter with him. I then made a critical examination into his whole previous history. This had been done before, but I wanted to go over it again. I asked him: "After the injury were you unconscious?" "No," he said; he was not unconscious. I saw from the manner in which he answered that he had a doubt about it. I said, "Very well; what was the matter?" "Oh, well," he said he could not very well tell. I pressed him a little further, and went backwards and forwards many times, going over his various assertions. I asked him if he could see well. He said, "That was the thing; I could see, and yet, mon, I could na' see." I was then quite alive to what might be the possibility, and I asked him to explain further how it was that he could see, and yet could not. "Well," he said, "in walking home I knew I was being helped home, because I felt that there was a man at either side holding my arm, and when I turned and looked at them I didn't know the difference between them and a 'footstab' [fence post]." He said when he got home he knew he was in his own bed. I asked, "How did you know that if you could not see?" He said, "Mon, I felt it." The following Sunday he took up his testament, which he recognized by the touch. He said he knew and could feel the letters of the testament on the back, but when he opened it he could not read. He saw things that were like words, but it was in an unknown language. Then we knew what part was affected. These phenomena lasted for about a week, much longer than they usually do. There are very few such cases on record. I believe that there are many more if we will only find them out. We operated on this patient, and found that the outer table of the skull was perfectly sound, but the inner table had been split and a portion of it had gone into that angular gyrus, and was surrounded by a cyst. It was removed, and the patient is at work to-day, thoroughly well.

The speaker then mentioned a case that had been operated upon three or four times in another part of the country for mastoid trouble. This patient was a very acute business man. In my consulting room I very often sit with my back to the light, the light of the window being upon the patient's face. He said he would rather sit the other way, but I persuaded him to remain as he was. Then he wanted to see my face. I wondered a little about that, and saw that he watched, as far as he could, my expression, and that as long as he saw my face he was evidently guessing at the questions that were put to him. I therefore tried the experiment of holding a piece of paper before my face and asking him a question, when I found that he turned to his wife and said, "What? I beg your pardon." I repeated the question in the same manner, and he again turned to his wife and said "What?"

He was subject to what they called periods of very great excitement, in which he would do nothing that anybody wanted. The trained nurses that I have, found out a great many points in relation to the case, but one of them described him simply as an irascible old man. On seeing him in this condition he did look very much like a cantankerous person. He would ask for a drink, and upon its being brought to him he would still cry out for it. We would say, "Here it is; take it," but he would still ask for a drink. I saw there was something wrong with his eyes and they were examined, but physically they were all right. One day when he was acting in this manner I handed him a drinking cup, and I saw that even while both his eyes were looking at it he could not see it, but on touching his lip with the spout he seized the cup and began to drink. He would always catch the cup by the handle. I stopped him while he was drinking and substituted a tumbler. I said, "There, now, go on with your drinking." He did not answer, but simply cried, "Drink, drink," and on touching his lip he at once put up his hands and began to grope for the handle. He not only could not see, but he could not hear; he did not hear what was said. Physically his ear was all right; the physical power of hearing was perfect. Psychically it produced no impression upon his brain.

The explanation of all his actions was, therefore, quite clear. He was not an irascible man; we could manage him perfectly once we understood that he could neither hear nor see. In that case we found that there was a lesion in the auditory center of the brain as well as in the visual center. It was a very complicated case, because we had first, from the condition of the middle ear and from other signs, clear evidence that he had an abscess in his cerebellum. That we operated upon and relieved, but we did not relieve the psychical blindness and the psychical deafness by that first operation. At a second operation, therefore, two days later, we opened the temporo-sphenoidal lobe and evacuated a second abscess, which pressed on the angular gyrus and first temporal convolution. It was a very large lesion, and after removing it these functions were restored. I then discovered this point, which he had never thought of mentioning, that for a considerable time before he came to us he could not see things correctly; he could see some things some days very well, but there were other days that he could not see even familiar objects correctly. He could not form a mental conception of what he saw physically.

I think I have been able to illustrate to you that there are a considerable number of points in the brain where a lesion can be fairly localized. There are many other centers, those in the anterior part especially, where it is very difficult to make a diagnosis. Remember this: You have in America an immense advantage over every English student; you can operate upon the lower forms of life. Experiments of this character can only be performed with us under a license; the number and character of the experiments must be specified, and the kind of animal upon which the experiments are to be made. You have in America, apparently, upon this subject, an enlightened government, and I hope it will always remain so. Experiments of this character have helped me very greatly, and I hope here, where you have abundance of opportunities, that you will fully avail yourselves of them, and that the students of Cooper Medical College will be able to contribute in some way towards the elucidation of these disputed points.

Lecture No. 3.

The speaker said that, by request and contrary to his original programme, he would to-day say something regarding the mode of detection of cerebral and cerebellar tumors and their treatment. The old classical symptoms, severe headache and vertigo, nausea and vomiting, and optic neuritis, of tumors of the brain, are not always to be depended upon. We may have a tumor without any of these symptoms. We would like to have them present, but there are other signs by which we recognize lesions in the brain, and which enable us to locate the lesions and also to remove the tumors, in a way that is very much better than to depend upon the general symptoms which I have already mentioned.

One of the first points that is essential in looking at any possible case of brain disease, is that we eliminate all other sources or symptoms of disease. We must be quite sure that there are no other diseases in the body which could produce the symptoms that the patient exhibits. In the general circulatory system we must find out whether there are diseases of the vessels that might be communicated to the brain itself. With regard to the heart, we must ascertain whether there are conditions likely to produce an embolus. Diabetes, albuminuria, and uremia, which also produce cerebral symptoms, must be excluded. Uremic coma, which simulates very closely some of the symptoms of tumor, must also be borne in mind.

There is another condition about which we must be very guarded, that is, hysteria, especially in connection with the erratic symptoms which very often accompany meningitis. A great many cases of meningitis have, at an early period, been mistaken for hysteria. I remember the case of a girl, 11 years of age, who had meningitis, and who had been dealt with at school in the usual mode which, I presume, is not allowed in your country, of whipping children because they cannot learn their lessons. She had been diagnosed as an hysterical patient by quite a number of medical men who had seen her, and it was only after admission to the hospital that it was discovered she was suffering from a serious lesion of the brain, accompanied by an extensive meningitis, from which the girl subsequently died.

Having eliminated all possible sources of error with regard to diseases of other organs, we must investigate the various avenues through which external impressions reach the cerebrum. One of the first to be examined is that of the eye. A great deal of attention should be directed to the pupilary conditions. No doubt they are very variable, so that you require a careful study of them before you can differentiate a brain lesion from the pupilary condition. We have, of course, in this examination, the objective method of examining with the ophthalmoscope, and secondly the functional method. With regard to the objective, we look for optic neuritis and optic atrophy. Many tumors of the brain may exist without optic neuritis, but in a very considerable number it is well marked, though its absence does not prove that there is not a tumor. Optic atrophy very frequently accompanies tumors of the cerebellum. Even in cases where cerebellar tumors have been successfully removed, this optic atrophy remains and is never recovered from. It is one of the most persistent and most frequent symptoms that we get with cerebellar tumors. We have, besides, the paralysis of the third nerve, affecting both the pupils and the ocular muscles, and giving rise to the distinct conditions of strabismus and dilated pupil. If we have hemianopia, then we have a very clear indication of the site of the lesion, which will be in the visual center of the occipital lobe.

I may say, in passing, with regard to the pupil, that, as a rule, wherever you have suspended brain function you have dilated pupils. You see this in cases of syncope and in shock, and also shortly before death. In chloroform anesthesia you will find that, in the early stages, you have a variable pupil. In the stage when reflex actions, except those of the respiratory organs, have been abolished, you will find that the pupils become contracted. At the moment when danger arises from an overdose of chloroform, you will have a dilated pupil, and, therefore, the condition of the pupil is of very great assistance to the anesthetist. It is the same way with tumors pressing upon the brain. With a tumor producing a slight amount of irritation, you would have a contracted pupil. If that tumor should increase very greatly so as to produce such an effect upon the whole cerebrum as to almost suspend its function, you will have the pupil upon that side dilated.

The speaker here referred to a case which he had noted while serving as house surgeon in the Glasgow Royal Infirmary. A man who had fallen from a hight, striking upon his head, was brought into the infirmary in a state of unconsciousness. Shortly after admission there was a profuse hemorrhage from the nose, the blood rushing out in large quantities. Previous to this hemorrhage the patient had been absolutely unconscious and the pupils were widely dilated. After the escape of this blood, the pupils gradually became contracted until they assumed their normal proportions and consciousness returned. Subsequently he again became unconscious, and the dilated pupil returned. The autopsy showed that the anterior portion of both frontal lobes had been crushed by a large effusion of blood from the longitudinal sinus.

The speaker said: It is sometimes a difficult matter to discriminate between alcoholic coma and some cerebral conditions, as tumor or apoplexy. We have in our country a gentleman of very great distinction who says all that is necessary in order to discriminate between alcoholic coma and unconsciousness resulting from tumor, apoplexy or other brain affections, is to take the temperature of the patient; as in alcoholic coma this will be subnormal, while with all the other affections it will be considerably above normal. However, he is wrong with regard to that point. Certainly, in alcoholic coma, as a rule, the temperature is subnormal, but this may also be the case in any disease that produces a sudden depression of the cerebral functions. In apoplexy you will almost certainly find at an early stage a depressed temperature, though in five or six hours you will have an increased temperature. In fracture of the skull, with unconsciousness, shortly after that fracture has been produced, say an hour or so, you will have a depressed temperature, so that the thermic test cannot be depended on.

There is, however, a method by which you can find, very easily, whether the subject is suffering from the effects of alcohol to such an extent as to cause coma. In the text-books it is laid down, and correctly, that you have a variable or a dilated pupil from the effects of alcohol. That is quite true, but those authors do not mean alcoholic coma. When a person is actually comatose from alcohol, or at all events, deeply insensible, you will find, if you leave him alone, that he has a contracted pupil very much like that in opium poisoning, and you will find that both pupils are equal. If you can produce a physical impression upon the individual, as by pulling his hair, etc., even though consciousness may not be restored, you will find that the contracted pupil will gently dilate, and that it continues to do so as you apply considerable stimulation, until it becomes a dilated pupil. If you relax your efforts and leave the patient alone, you will find that it will take five, ten, or fifteen minutes to gradually contract down to its original form, the rapidity of contraction depending greatly upon the profoundness of the coma. Occasionally, where there is a small tumor on one side of the brain, we may have on one side a contracted and fixed pupil; at other times, we may have, with a large tumor, a dilated pupil, and where you have inequality of the pupils it greatly helps in pointing out the side on which the lesion is.

With regard to cerebellar tumors, I shall run over their symptoms very briefly. There are a great many cerebellar tumors. A number of them occur in children and of these a great many are tubercular. In that class cephalalgia is one of the most prominent symptoms. Very often you have this intense pain confined to the back of the head, but sometimes you may have it referred to the forehead or to any part. Very frequently there is contraction of the muscles of the back of the neck, with rigidity. There is a sensation of general enfeeblement, yet at a very early period the patient will use the hands and legs fairly well. We have also deficiency in grasping power, as measured by the dynamometer. Shortly after this we have unsteadiness of gait, or perhaps a tendency to fall, or stagger in one direction or the other. Along with this, the patient has vertigo. This is a very common symptom, and in the later stages you will find that the patient cannot sit up in bed without this feeling of giddiness, which sometimes produces nausea and even vomiting. Occassionally, where the tumor is very large, you will find that, even in the recumbent position, the patient has vertigo. This is of a rotary kind, the house and everything else appearing to swing around the patient. These symptoms are indicative of tumor in the cerebellar fossa. I think vomiting is more frequent with cerebellar tumors than with any others.

Although we say that a patient has a tumor in the cerebellum, you must not believe that the whole effect of that tumor is confined within the tentorium. Its power of causing ventricular distension is so great that a very marked effect is produced upon the whole anterior part of the brain and, therefore, upon the patient's intelligence and his motor functions. Besides these, there may, of course, be hemiplegia and facial paralysis and interference with speech and sight. You have marked optic neuritis, and very frequently, unless the lesion is promptly relieved, optic atrophy. This optic atrophy is more common in cerebellar tumors than in those of the cerebrum.

Where there is great ventricular distension, especially in a child with a thin-walled skull, you can get, by tapping, a very distinct sensation of the thrill that is conveyed by the fluid. It is difficult to convey the exact tone of the note and it is also difficult to persuade some people that you can get a distinctive note, as they say you cannot have one unless you have an air-filled chamber. You are all familiar with the sound that can be produced by drawing the finger along the edge of a tumbler, and this sound can still be obtained, though the tumbler be filled to the brim. Where the skull is thin and where it is filled with fluid, you will find the note is just as easily produced. If you put into the tumbler a heavy substance, such as molasses, and try to make it sing, it will not. Similarly, if you have the whole cavity of the skull filled with brain matter, it will not sing, either.

I would merely refer for a moment to the fact that an analysis of the urine is supposed to assist very greatly in determining the presence of cerebral tumors. There are some who make such careful quantitative analyses of the urine that they believe they can easily diagnose a cerebral tumor. I think it is right that this examination should be made. I think you can get a great deal of information from it; but I would not, in our present position, at least, depend for the diagnosis of cerebral lesions, upon the condition of the urine.

With regard to determining the site of the lesion, you remember I said yesterday that a lesion of the brain may act locally; and secondly, it may produce symptoms at a distance; and thirdly, it may produce diffuse cerebral symptoms. Just a word here with regard to the increase in size of the tumor in the brain and its effect upon the cerebrum alone. We have here also cephalalgia. It is rather difficult to be quite clear as regards pain in the head as a symptom of tumor, because we have pain in the head from so many other different causes; but the typical pain produced by tumor is that of a dull sensation, lasting for days, possibly weeks, all the other symptoms may be in abeyance; then comes a period when the headache becomes very intense, even sufficient to prevent the patient from sleeping, or to awaken him by its severity. We also have choked disc, and there is a sense of muscular weakness. Very frequently there are convulsions at one period or other.

In every case where you have a considerable amount of pressure upon the brain there will be a slow pulse. The pulse rate, which in a child is usually 70 or 80, will slow down to 40, sometimes 35, and even lower. That pulse has long been recognized as the cerebral pulse. We have it also in abscess of the brain, and we know from a great many experiments, and from our experience in operations, that it is due to pressure. Of course, remember when you have this slow pulse, you must not come to the conclusion that you, necessarily, have a tumor. Anything producing pressure on the brain will cause this slowness. You may have an intense inflammatory action, an intense cephalitis, which will also produce it. It must be perfectly apparent that if you have a tumor which infiltrates instead of pushing aside the cerebral substance, it may not cause pressure, and, therefore, you will not get the slow pulse. There are some gliomatous tumors which infiltrate the tissue and absorb it during the process of infiltration. Under these circumstances there is no effect upon the pulse.

Locally, tumors produce destruction at the point occupied, or, it may be, a certain amount of irritation and compression. If destruction is produced in a motor center you will have a definite paralysis of the parts whose function is presided over by that area of the brain, in which case it is clear that the paralysis will be permanent. If, on the other hand, the tumor has, merely by pressing on the brain, dislodged those portions, the paralysis will be temporary, but it will remain as long as the lesion exists. As a rule, with comparatively small tumors, only irritation is produced, and instead of getting paralysis you will have a series of convulsive movements, tonic or clonic spasms, as the case may be. When a patient, subject to epileptiform seizures is, in the intervals, free from permanent paralysis, the lesion is either quite superficial, or it acts in the neighborhood of the motor zone, without having produced a destructive lesion in the ascending convolutions. This is a very well established fact. On the other hand, when a patient with epileptiform convulsions has, in the intervals, a paralysis which is permanent, and especially if it is a monoplegia, then we conclude that there is a destructive lesion, more or less limited, in the motor cortex. The post-epileptic transitory paralyses often seen in these cases are of value. They cannot altogether be depended upon, as they merely show that the lesion is near the motor center, not that it is in that region.

There is a question among some people as to whether the lesion present is cortical or subcortical, and a great deal has been written upon the subject. As far as we are concerned as operators, it matters very little whether it be exactly on the surface of the brain or half an inch underneath. We will find the tumor quite as well if it is in the latter region, and, therefore, while interesting in a scientific way, as a practical point we may leave it alone.

If you will allow me I will, very quickly, run over some of the modes of operating in tumors of the brain, for those who are interested in this subject. When we believe that we have located the tumor, we first try to expose a sufficient area to enable us to see the whole tumor at once. For that purpose there are quite a number of ways in which you may remove a portion of the skull. Sometimes this may be done by a series of trephine openings, placed triangularly, and afterwards united by a saw. A very much better way is to raise a portion of bone as a flap. We make the incision through the scalp in the same way as that in the skull, only a little broader, and raise the scalp flap and the skull in one piece and lay it back, and then we have the whole surface of the dura mater exposed. This flap is then carefully protected from contact with septic material.

We next inspect the dura mater. In quite a number of cases the dura is translucent and you can see through it sufficiently to tell whether there is blood underneath or normal brain, or whether there is some yellow or other colored material. That is always a help. In a child the dura mater is very transparent and you can see the vessels underneath quite easily. When we come to open the dura mater, what we see will largely govern us as to the extent to which this opening will be made. If there is a very extensive lesion on the surface, we would open the dura freely. Some advise making a peripheral incision in the dura for about two-thirds the extent of the opening in the skull, and turning it back as a flap. If you do so, you will have difficulty afterwards in putting it together.

Although the dura is a rigid structure, yet there is a certain amount of retraction, and you will have the edge retracted just underneath the margin of the skull, and if you have cut one of these superficial vessels in the pia, it also will retract underneath the skull. For these reasons never cut the dura round the edge of your opening in the skull. Commence the incision from the center. If you cut a vessel, you can, with very great ease, by enlarging the incision, secure it when opening from the center, but if peripherally it retracts beyond the margin, and gets beyond reach, until another piece of skull has been removed, which occupies, perhaps, half a minute or so, while the blood is pouring out into that subdural space, where it is so dangerous to allow it to spread. If there are any vessels at the point where we wish to make the first puncture we avoid them. If we cannot see through the dura, we take a knife, and as a preliminary, make a very, very small opening, almost by a process of scraping. If we take off the external layer of the dura we are often able to see through the internal layer, but if we cannot do so, we go very carefully through that little spot and once we get inside the dura, we can introduce a broad spatula or the periosteal elevator and then open up the part freely.

If the surface of the brain is perfectly normal, then we have the opportunity of palpating it. Sometimes, by the sensation of touch, we know there is a tumor underneath. Sometimes we see from the color of the brain that there has been a very distinct disturbance at that point and we are sure there is a lesion in the immediate vicinity. In that case we make a free incision into the tumor, and very often after this I allow the growth to be extruded, to a considerable extent, by the pulsations of the brain itself. If it be a very large tumor, instead of removing it *en masse*, we divide it into many pieces, so that it may be removed through a very much smaller area, and consequently do much less damage to the brain.

After the tumor is removed, we very often have a certain amount of bleeding. Sometimes the hemorrhage is very great. It is no doubt so, if you make extensive cuts in the brain, but if you allow extrusion to take place in the way I have mentioned, you will have comparatively little bleeding. When the hemorrhage is considerable, we require to exercise a certain amount of compression in order to control it. Fortunately, compression acts well. I do not use opium for the purpose of contracting the vessels. I doubt whether opium or any of its compounds produces contraction of the cerebral vessels. You know that if you give opium in large doses, it produces a dark colored blood, and if you have a carbonated blood you will have more bleeding, and therefore we avoid it. We also avoid it, because opium produces an impression on the cerebrum, which is very apt to mislead us in weighing the symptoms after the patient recovers from the operation.

After the operation is finished and the hemorrhage has been thoroughly arrested, we replace the dura mater very carefully. This is of the utmost moment. If you leave a considerable gap you will have the brain at that part becoming anchored to the skull, and if you have the brain anchored to the skull it will in time produce very serious effects upon the individual. Normally, the brain and spinal cord float in the cerebro-spinal fluid, which protects the parts in sudden movements. Where the brain is anchored to the skull, it no longer floats in that fluid, and these sudden movements are directly transmitted to it. This I have seen in the case of a boy in whom a considerable portion of the skull had been removed by injury. After his recovery he stated that if he were sitting and rose up quickly, very likely he would drop, or if he was standing and suddenly started to run, he would stumble. He said something came over him and he felt just as if he had got a blow on the head, which, in fact, in a sense he did receive, by the transmission of the impulse from the skull to the brain, through that anchored portion of brain. Having adjusted the dura mater, we then replace the large piece of bone which has already been detached, and after putting in a few stitches the whole is treated in the way that I shall speak of in another lecture. In regard to the reimplantation of a piece of bone that has been entirely removed, provided you have a young subject, and provided you have been scrupulously careful in keeping it aseptic, you may be able to replace it and it will grow. I have tried this in many cases, and if the case is aseptic, these fragments will grow, but they do not grow if there is suppuration.

Lecture No. 4.

The speaker said: In former lectures we have dealt generally with those forms of disease which are slow in coming on and which are also comparatively uncommon. To-day I shall speak of processes which occur more commonly and that require immediate attention when they do occur. In the case of tumor of the brain considerable time may be afforded, weeks, even months, in making a diagnosis. In a case of abscess of the brain, infective meningitis or a disease of an infective character, we must, with rapidity, diagnose the disease and operate. It is therefore necessary to be thoroughly versed in the symptoms and to have a clear idea of the mode of treatment.

Until quite recently there has been an impression that it was not possible to positively diagnose and to successfully operate upon abscesses of the brain. First, as has been said, because an abscess of the brain is such an erratic lesion that it may occur in any place. Second, that even if found and evacuated, it was simply a localized expression of a general pyemia, which general condition would subsequently kill the patient. I hope to be able to show that both these statements are wrong. There is another and equally erroneous one, that until recently has been generally indorsed by the profession. That is, that an abscess of the brain is such a rare disease, that one would only meet with a single case possibly in a lifetime. Abscess of the brain and the pyogenic infective diseases, which are apt to accompany it, are, unfortunately, not rare. They occur very frequently, and very often they are not recognized. I am sure from what I hear and from what I know, that a very large number are not recognized.

Regarding the statement that all abscesses of the brain are pyemic. It is true that you have in the brain, as in any internal organ, metastatic abscesses, but in the brain they are comparatively rare. The greater number of abscesses that occur in the brain do so in connection with a marked focus in immediate contiguity with the original pyogenic source. There are only two ways in which pus-producing germs can get into the brain. One is certainly by way of the circulation, but that is comparatively uncommon. The other is by the pyogenic erosive processes produced in the skull and in the soft tissues which line it, and which, therefore, by extension, penetrate into the brain. This is the most frequent way in which abscesses occur, and if this be true, it greatly assists in the localization of the lesion.

A very important point urged against the safety of operating upon abscesses of the brain, was that they occurred in regions which showed few localizing symptoms of the presence of lesions and therefore it was difficult to diagnose the precise part of the brain in which the abscess was situated. Abscesses are slow in showing localizing manifestations, and therefore we often have lesions in the temporo-sphenoidal lobe without definite symptoms. In the cerebellar fossa also, acute lesions may occur with very few localizing symptoms. There is, therefore, very great difficulty in ascertaining the precise location.

Then quite a number of *a priori* ideas, if I may so speak of them, were put forward for the recognition of lesions in these positions. It has been stated that if a vibrating tuning fork were placed against the mastoid region, and if the person perceived the vibrations by contact, that then the middle ear was the road through which infection had entered the skull, and that the lesion would be in the temporo-sphenoidal lobe, whereas if he did not perceive the vibrations, the internal ear was the road of infection and the cerebellum was the part in which the abscess was situated. This is incorrect. Infective processes in the internal ear do not, in my experience, lead to abscess, but to infective meningitis. This is readily explained if you remember the structure of the internal ear and its distance from the cerebellum. The infective process would have to travel for one-quarter to one-half inch along the membrane before it would come in contact with the brain, or with the cerebellum. It will therefore be seen that whenever the pyogenic process involves the membranes in that particular position, a meningitis will ensue, and that an abscess of the cerebellum could scarcely follow such an infection. It is also a mistake to say that by the tuning fork you can find whether this internal ear is affected, because we find even in suppurative lepto-meningitis of the most severe form, that the hearing is sometimes not only retained, but may be hyper-acute.

It is a matter of very great service to us to know that the two parts of the brain that are generally affected are the temporo-sphenoidal lobe and the cerebellum. We have in the focus in the middle ear a very direct contact with the part which is affected inside the skull. This simplifies the diagnosis and immensely simplifies the operation. It takes away the difficult matter of recognition of a particular portion of the brain, and gives almost a mechanical step by step process of recognizing these lesions. On examining the section of the ear, we notice that there is an extremely thin plate of bone separating the attic of the tympanum and the attic of the antrum from the brain. Above this there is merely a layer of dura mater and one of pia mater, and beyond that the cerebral convolution. In some cases, as we have seen, this layer of bone may have been destroyed from erosive action. On looking at the convolution above, we will find some sulci very near that position, and it is through these sulci that the pyogenic process extends into the brain.

When you have an acute process occurring in the middle ear, you comparatively seldom have any invasion of the brain. I have seen exceptional instances, one a case of diphtheria in which the infection spread from the eustachian tube. In the great majority of cases the brain lesion follows chronic ear disease—a slow, persistent, erosive process. Once you have pyogenic organisms in that mastoid antrum, you have all the conditions for their development—food, heat, and moisture, that we imitate in the laboratory. From there they spread into the other recesses, and it is almost impossible, by acting upon the external ear by any method, to get rid of them on account of the tortuous passages through which they enter. Many persons think, when there is a discharge from the ear, that the ear can be syringed out, and the discharge got rid of. This is by no means a simple process, and it is quite likely when injecting the fluid that these germs, which at first were only located in the outer chamber, may be swept back into the deeper recesses.

In all these cases it is important to find what kind of germ is actually present. There are innumerable germs that may get into a diseased cavity, where it has access to the open air. Therefore, we find it necessary to make an examination in order to determine whether we have a germ in this cavity, which is of a serious nature. Odor, no doubt, helps somewhat, but you may have the most virulent organism in a fluid which has no odor. We are, therefore, always prepared by culture experiments to ascertain the specific organism present.

When this process has been going on for a considerable time, we have the destruction of the lining membranes of the cavity, and next an erosive action upon the bone underneath, so that there may be one or more openings in the skull. Nature here endeavors to protect herself, and does so by throwing out what is known in surgery as granulation tissue. Consequently we very frequently have this granulation tissue filling up the middle ear in considerable masses. These are often called polypi, but in a majority of cases they are simply granulation tissue. You know with regard to the surface of a wound that if you have a layer of granulation tissue over the surface it is well protected from organisms. If that layer is broken in any way, a small aperture even is quite sufficient to admit those organisms to the inside of the body. Many people all over the world think that ear diseases are very easily treated, and it is generally laid down that when you have a polypus in the ear you must extract it, but be quite sure of what you are doing. Many times I have found that abscess of the brain and lepto-meningitis have followed immediately upon the extraction of one of these polypi, and why? Simply because you have got hold of this granulation material, which nature has produced to protect the brain, and you have left an open wound in a cavity containing a great number of germs, ready to act on the fresh surface and to spread destruction.

When the process extends a little further, that is, through the dura mater, you have entered the subdural space, and might at once get an inflammatory action which is almost beyond control. Fortunately, nature again tries to prevent this. Adhesions take place in the membranes of the brain, and there is a "soldering" of these together, and to the skull, similar to that which occurs when a tubercular cavity in the lung is about to burst into the pleura. Fortunately for those affected with ear disease, the process is slow, and usually this adhesion of the membranes takes place. If it were not for this protective process, we would have meningitis and death very much more frequently. Whenever we have a mass of these adherent membranes, we try to leave a margin of the adhesion all around the part through which we seek to reach the suppurative process.

There are two parts most apt to be affected. The one is the attic of the tympanum, and the other the attic of the antrum, and extension through either of these is followed by abscess in the temporo-sphenoidal lobe. Another structure which is near these cells is the lateral sinus. The knee of this sinus comes almost into immediate contact with the walls of the mastoid cells. We find in many instances, that the disease has left the thin plate between the antrum or the attic of the tympanum and the brain, intact, and has proceeded backward through the mastoid cells to involve the lateral sinus. If it involves the sinus it may produce there a thrombosis;

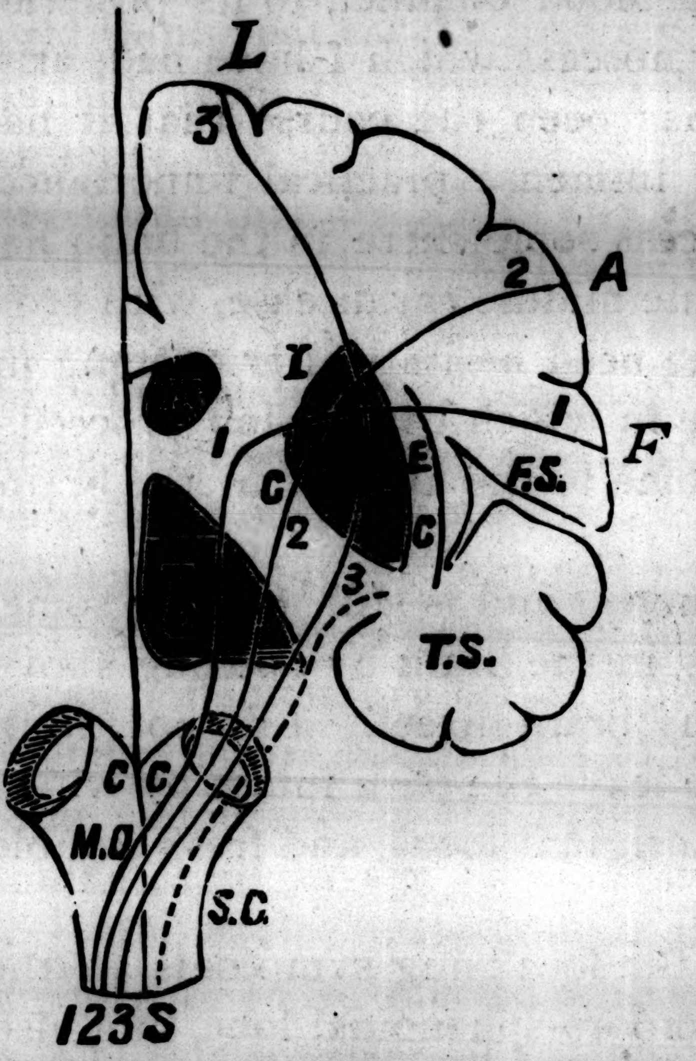
but nature also acts here, and tries to protect the brain by throwing out a considerable amount of granulation tissue.

The point I am leading to is, that where you have a cerebellar abscess, caused by a focus in the middle ear, we find that that abscess is in immediate contiguity with the sinus; we do not find it occurring in other parts. If, therefore, after opening the middle ear, we find that the erosive process has taken a backward direction, and that it comes in contact with this sinus, and if the symptoms of an abscess have already been noted, then be assured that you can get at that abscess by going around this large blood channel, to its posterior surface. In every case of cerebellar abscess which I have had, arising from middle ear disease, this has been the course that it has taken. This point is, therefore, of immense practical importance. When a definite diagnosis of an abscess somewhere in the brain has been made, provided there is a chronic middle ear disease, with erosion of the walls of that cavity, no one need hesitate after opening up those parts to go on in the direction in which the erosion proceeds. In that way he will, step by step, come to the abscess in the brain, or in the cerebellum.

In regard to operating, it was formerly, and is still, held by some, that it is better to attack the abscess in the brain by opening above the ear and going through the healthy brain direct. I do not think this is a good way, as in so doing we leave the path intact by which the infective matter entered from the original focus, and fresh trouble may therefore start up.

I will now say a word regarding the localizing symptoms in the diagnosis of large abscesses in the temporo-sphenoidal lobe, and also in the cerebellum. Owing to its proximity, when you have increased pressure in the temporo-sphenoidal lobe, you are bound to have the third nerve pressed upon, and there is, therefore, very frequently, dilatation of the pupil on the same side as the lesion. In some cases, we have also the characteristic squint, but this depends upon the degree of pressure. When the third nerve is involved, we may look for something else. Owing to its anatomical surroundings, an increase in pressure in the temporo-sphenoidal lobe must act on the brain substance in an upward direction. The superimposed centers will, therefore, be affected, and you will often find a slight degree of facial paralysis. This is distinguished from a paralysis the result of pressure upon the facial nerve in the canal, because in the former case, the paralysis is on the opposite side of the face to that of the affected ear.

Again, where you have a destructive lesion in the middle ear, producing a paralysis of the facial nerve, you have an absolute paralysis. Where the center is affected, the paralysis is not of the same degree, and there will be still some expression left on the affected side of the face. Even assuming that we had destruction of the nerve on the left side, and an abscess of the brain causing partial paralysis on that side, we still would have a marked difference in the amount of facial expression on the two sides. If the pressure extends still further upward, the arm and possibly the leg will be affected at the same time, though the leg center is seldom involved. When you have the paralysis occurring in that order—face, arm, leg—you may be sure there is pressure from below. You may ask, "But what about the internal capsule?" We believe that pressure upon the temporo-sphenoidal lobe will seldom affect that internal capsule, but if it did, the paralysis, owing to the relation of the strands of the brain [see engraving], would produce paralysis in the reverse order, and you would most likely also have the whole sensation destroyed. You would also have the leg, arm, and face affected at once.



[1]*F*, facial; *A*, brachial; *L*, crural-motor areas; 1 1 1 facial, 2 2 2 brachial, 3 3 3 crural-motor strands from cerebral cortex through *I C*, internal capsule, and *C C*, crus cerebri, to opposite side of spinal cord, *SC*; *S S*, sensory tract: *T O*, optic thalamus; *N L*, lenticular nucleus; *N C*, caudate nucleus; *E C*, external capsule; *M O*, medulla oblongata; *T S*, temporo sphenoidal lobe.

In regard to abscesses in the cerebellar fossa, there you often have a difficulty. The localizing symptoms are peculiar. You will very often find respiratory difficulties amounting almost to Cheyne-Stokes respiration. Where you have an abscess in the cerebellum, there is great danger of the patient being killed by pressure upon the respiratory center. Quite a number of cases of this kind have occurred. There is a very peculiar phenomenon that will occur with this cessation of respiration. The pulse remains distinct and quite strong, and will continue for several minutes. In one case, artificial respiration was maintained for twenty-four hours, and during all that time the pulse never flagged. There are many other symptoms which we find in cerebellar abscess; there is very frequently intense pain, and we have also the localizing symptom of incoördination in walking.

---

[1] From "Pyogenic Infective Diseases of the Brain and Spinal Cord." Macewen.

Lecture No. 5.

The speaker said: With regard to the general symptoms of brain abscess, we have, in the first place, a very distinct lowering of the pulse rate. We also have a very marked reduction in the temperature. These two symptoms are very distinct, coming on in almost all cases where there has been an increase of pressure. It is quite common for those who have not had the opportunity of seeing such cases to doubt that there is an abscess in the brain when the temperature is about normal or subnormal, but that is exactly what we find in the second stage of cerebral abscess. This point ought to be impressed upon everybody who has to deal with cerebral abscess.

We have a pulse which is very often about 40; I have seen it as low as 20, and the pulse rate diminishes as the pressure increases inside of the brain, and in abscess this diminution of pulse rate occurs very quickly. In some instances where the abscess is located in the cerebellum and where there has been a great deal of pressure upon the vital parts in that vicinity, the pulse rate is even further depressed. I have, on one or two occasions, found a pulse rate which was three and four to the minute. That this is due to pressure is very clear, because the moment you remove the cause by evacuating the abscess, you find that the pulse rate will run up and, for the time being, it will become so rapid as almost to be uncountable, but gradually, in ten or fifteen minutes, it will come down to about its normal. With the temperature, also, you will find within an hour or two after removing the pus from a cavity, that the temperature, which has been subnormal, will go up almost always above a hundred, and it will then slowly come down again.

In the very early stage every one of these cases complain of severe pain in the head. At first, as a rule, it is located in the ear, and then afterwards it spreads all over that side of the head. The pain is intense and excruciating. This pain is somewhat paroxysmal, and with it, in this early period, we very often have an increase of temperature. It is seldom that the surgeon sees the disease at this early stage. Possibly about the third or fourth day the patient, according to his friends, seems better. He is not, in reality, better; he is worse, but the pain apparently has subsided. The cause of the pain still exists, but the fact is that his brain has become deadened, and then he assumes quite a characteristic manner. He will answer questions fairly well, but you will see there is a dreaminess, and he takes considerable time to reply. You will next notice a marked slowness in cerebration. He looks very much like an opium eater. This slow cerebration is a very distinct feature in abscess of the brain. There are many other points to which I would like to refer, but I will just now compare this condition with that of sinus thrombosis.

The same organism which produces in the brain an abscess, in the sinus a thrombosis of a septic character, and in the meninges a cerebro-spinal meningitis, does so according to the locality which is affected. In the case of sinus thrombosis, you have a very high temperature, 103° or 104° F., sometimes 107°, and you will find, as a rule, that there are marked increases and depressions of the temperature curve. You have pain about the ear and about the mastoid. You always have the parts extending down from the mastoid very tender, and sometimes you will find the jugular vein tender or even cord-like if the process has descended, as it sometimes does, as far down as the clavicle. This increased tenderness on pressure on the affected side is a very marked point in sinus thrombosis. We very often have retraction of the head and neck, which also occurs in meningitis.

There are two things that are very distinct in connection with this affection. I have not spoken to you of rigors. We have them in all three forms. We very often have a rigor at the outset of an abscess, and after that, as a rule, there is no further shivering. If you are estimating this point, and place any dependence upon it, remember that this shivering may be differently construed by different observers. Sometimes if the rigors are violent they may be described as convulsions, but you very seldom get convulsions with abscess, especially with those that occur in the temporo-sphenoidal lobe. The rigors in the case of sinus thrombosis are totally different as regards their occurrence. They are frequent, and are almost always followed by profuse sweating. The longer the case goes on the more frequently the rigors occur. In the abscess the rigor or rigors occur at the beginning, and after a time there will be no more. In the thrombosis, the longer the case lasts the more frequent the rigors become.

There is another interesting and painful phenomenon seen in advanced cases of sinus thrombosis. The patient, who has had his sensibility benumbed, begins to complain of a terrible stitch occurring some place in the chest. This may come on in a number of different places, succeeding one another, until there are spots all over the lung, in which he complains of intense pain. Careful physical examination of the lung at this time will fail to disclose any localized focus, yet in 24 or 48 hours thereafter the lung will be dull all over, and long before that the patient shows the characteristic fetid prune-juice expectoration. You will find by culture experiments that the same organism can be grown from this expectoration that is found in the discharge from the ear. The cause of these stitches, in fact, as is shown by *post-mortem* examination, is infarctions. If the case lasts long enough, we will find that this extensive consolidation of the lung has a tendency to break down, and this is a peculiarity of all forms of infective thrombosis, differing greatly in that respect from a thrombosis formed in mechanical or other ways. An infective thrombosis, while very hard at the beginning, contains those organisms which will liquefy it, and in a short time it breaks down, is carried into the circulation, and may be deposited all over the body, but especially in the lungs, so that the odor from the excretions is very distinct.

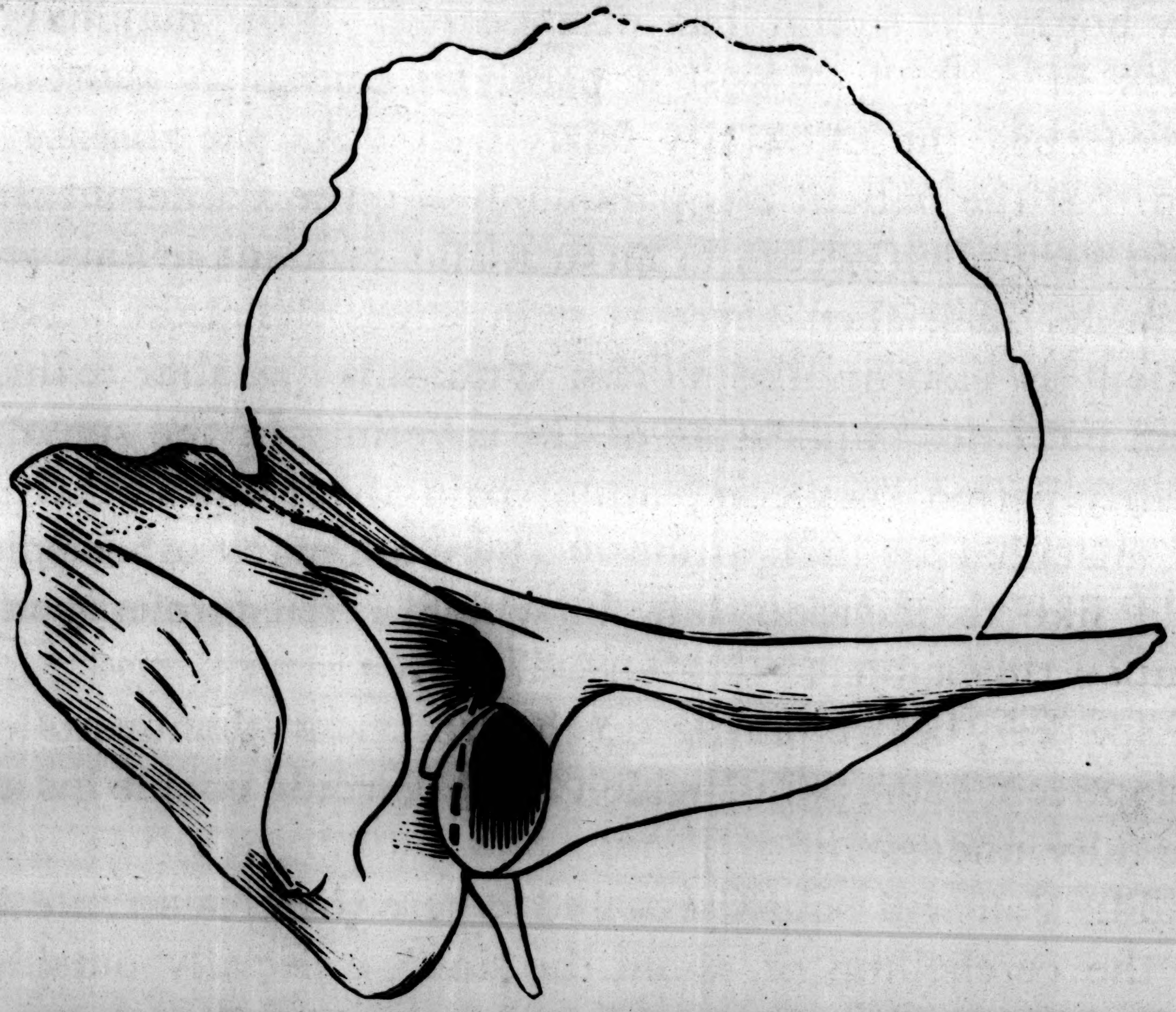
In the meningeal symptoms arising from the same cause, it is, as a rule, quite different. You have in cerebro-spinal meningitis very erratic symptoms, and this is one of the features of the affection. You may have squint, a symptom very seldom seen in abscess, but in a few hours the squint has disappeared. You may have a little weakness in a limb, almost a paralysis, and in a short time the patient can use the extremity fairly well. As the disease spreads, you find that the patient has pains, but of quite a different character. The pain very often occurs in an arm and remains in this arm for a considerable time; then there is pain across the chest. Sometimes the patient is caught like a vise with this peculiar pain, which symptom indicates implication of the coverings of the spinal nerves. At an early period they complain of pain about the stomach, which may be mistaken for indigestion. There are many other points that I should like to mention, but for which I must refer you to the works upon this subject.

[The speaker, before taking up the treatment, demonstrated, with the steriopticon, some points which he said would enable his audience to more fully understand it.]

He said: You will sometimes find where there is an infective disease in the cerebellum or about the sinus, especially outside of the sinus, that through the mastoid foramen, pus will get outside the skull and there form an abscess. It has been advised wherever there is a doubt as to the existence of an abscess in the temporo-sphenoidal lobe, or in the cerebellar fossa, to expose this foramen and examine it, but it must be quite apparent that if the abscess be inside of the dura mater, it will be quite impossible for pus to escape thereby.

The first thing that we require to do in operating is to try and get down to the mastoid antrum. Once inside of the antrum we have a very good guide for further operations. From there we can extend to any other point. If we get into the antrum we know the relation of the parts at once. We have to deal with the facial nerve and we know exactly where to find it, because we have the opportunity of seeing the aqueductus fallopii. The other structure that we must be careful about is the sinus. Some anatomical works are very reckless in their directions regarding this sinus. It is laid down that you can reach this sinus at so many fractions of an inch behind the external ear. The sinus has a very variable situation and you cannot depend upon measurement as to its position. If you take the measurements that are given in many text-books with regard to getting into the antrum, you will be sure to get into the sinus instead. Thus, if you take, as has been advised, half an inch backward from the external ear, I will assure you that you will get into the sinus. It simply shows that the authors of these works have not been performing these operations.

We can always manage to get into the antrum, if we take the landmarks which are furnished us on the skull. [The speaker then illustrated by diagram (see accompanying engraving) the site of election for operation.] Taking the external osseous auditory meatus as a fixed point, in every case above and behind it, if you look carefully, you will find there is a little triangle which has an apex forward and a base backward. There is no distinct base line, but you will find the depression. If you take the triangle and from its apex drop a line parallel with the external osseous meatus, and posterior to



[1]Schema of squamo-mastoid portion of temporal bone, showing the supra-meatal triangle in relation to the sigmoid groove and facial nerve.

---

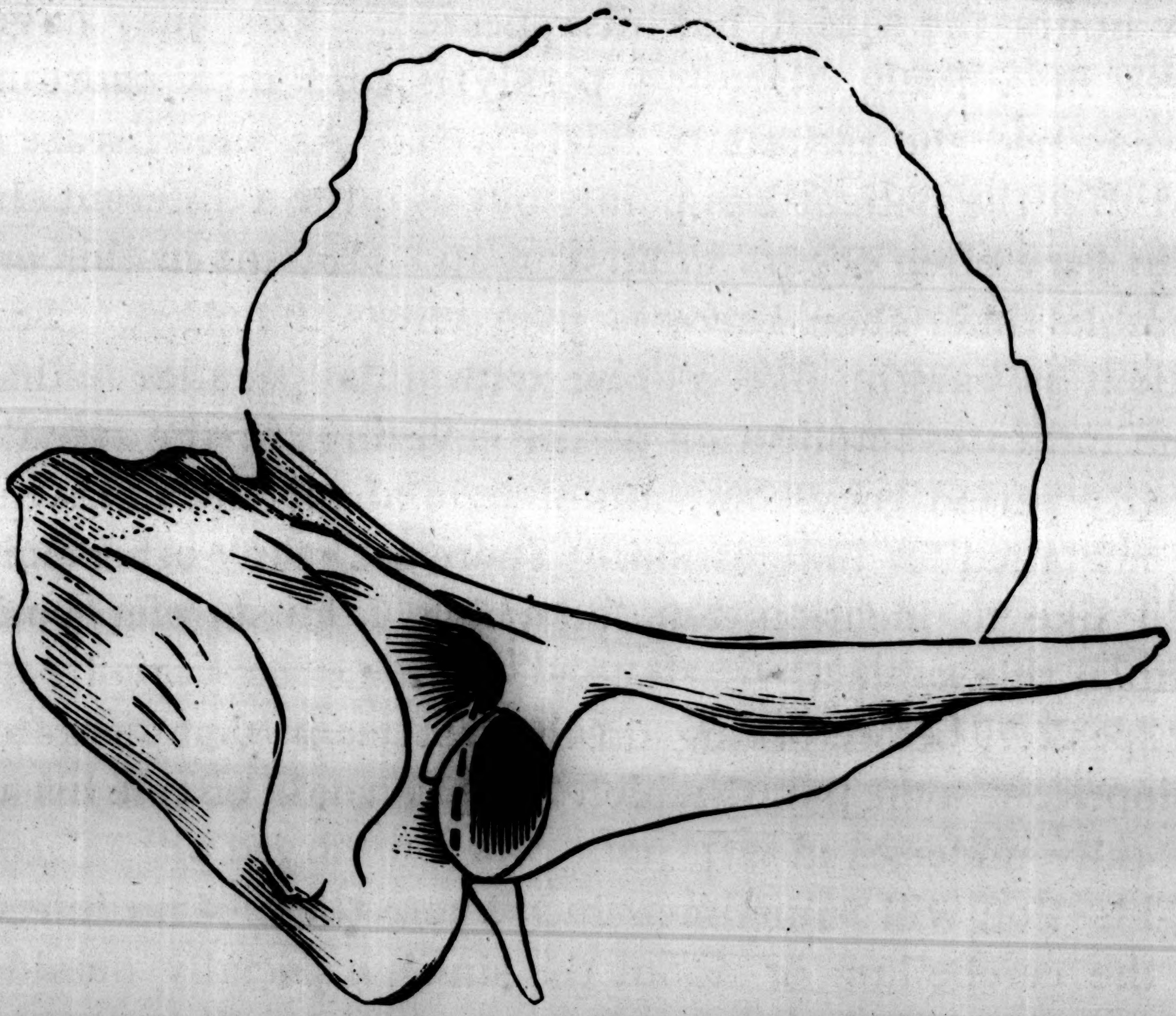
[1] From "Pyogenic Infective Diseases of the Brain and Spinal Cord." Macewen.

it, we then have a triangular space which I have called the "supra meatal triangle" If you operate in that triangle you will always be clear of the sinus, and you will go straight down upon your antrum. This triangle has been made out in something like 98 per cent. of a large number of skulls that have been examined. In some German skulls I have found instead of a depression a slight bulging at that point.

Once into the antrum, examine it carefully and note the position of the erosions, the line which the disease has taken in one direction or other. You can then remove the ossicles, and you can burr out the external wall of the ear sufficiently to see what you are doing. If you find there, any granulation tissue, cleanse the cavity and remove it. I have already warned you about touching this tissue, but that was while operating by way of the external ear, and in trying to fish the granulation tissue out, as if it were a polypus. Now you have the part freely opened, and you have a means of absolutely removing the whole of the mischief, but we are careful about it, and we require to see where the granulation tissue springs from. It may be from the bone or from the dura mater. If so, you will remove it and trace the disease. We take away all the diseased tissues from the upper part of the antrum, then we carefully go backwards and inspect the bone near the sinus. In many instances of extensive disease it is very much better to expose this sinus.

The operation of opening the antrum may be done in several ways. You can do it with a hammer and chisel, which is the method usually employed, especially in Germany. I think, as a rule, in that country they use these instruments on the skull very much more than the English surgeons do. It is very greatly a matter of habit. I have used the hammer and chisel in other parts of the body sufficiently frequently, so that you will understand that I am quite in favor of this mode of sectioning bone, and from the manner in which I spoke yesterday, after performing that osteotomy [Macewen's operation for genu valgum performed in the operating theater of the college], you will be quite convinced on that point, but on the skull I do think the hammer and chisel is a barbarous method. Whatever you do in opening the skull in the case of a tumor—although here I also deprecate the use of the hammer and chisel—you must remember that you are now dealing with a different condition. You have here erosions with pyogenic infection, and the impacts of the hammer may lacerate the protective granulation tissue, and, through absorption, produce further extension of the mischief. I believe that cerebral shock and concussion have followed this violent impact to the skull, and I understand that this has been noted by and we know exactly where to find it, because we have the opportunity of seeing the aqueductus fallopii. The other structure that we must be careful about is the sinus. Some anatomical works are very reckless in their directions regarding this sinus. It is laid down that you can reach this sinus at so many fractions of an inch behind the external ear. The sinus has a very variable situation and you cannot depend upon measurement as to its position. If you take the measurements that are given in many text-books with regard to getting into the antrum, you will be sure to get into the sinus instead. Thus, if you take, as has been advised, half an inch backward from the external ear, I will assure you that you will get into the sinus. It simply shows that the authors of these works have not been performing these operations.

We can always manage to get into the antrum, if we take the landmarks which are furnished us on the skull. [The speaker then illustrated by diagram (see accompanying engraving) the site of election for operation.] Taking the external osseous auditory meatus as a fixed point, in every case above and behind it, if you look carefully, you will find there is a little triangle which has an apex forward and a base backward. There is no distinct base line, but you will find the depression. If you take the triangle and from its apex drop a line parallel with the external osseous meatus, and posterior to



[1]Schema of squamo-mastoid portion of temporal bone, showing the suprameatal triangle in relation to the sigmoid groove and facial nerve.

---

[1] From "Pyogenic Infective Diseases of the Brain and Spinal Cord." Macewen.

it, we then have a triangular space which I have called the "supra meatal triangle" If you operate in that triangle you will always be clear of the sinus, and you will go straight down upon your antrum. This triangle has been made out in something like 98 per cent. of a large number of skulls that have been examined. In some German skulls I have found instead of a depression a slight bulging at that point.

Once into the antrum, examine it carefully and note the position of the erosions, the line which the disease has taken in one direction or other. You can then remove the ossicles, and you can burr out the external wall of the ear sufficiently to see what you are doing. If you find there, any granulation tissue, cleanse the cavity and remove it. I have already warned you about touching this tissue, but that was while operating by way of the external ear, and in trying to fish the granulation tissue out, as if it were a polypus. Now you have the part freely opened, and you have a means of absolutely removing the whole of the mischief, but we are careful about it, and we require to see where the granulation tissue springs from. It may be from the bone or from the dura mater. If so, you will remove it and trace the disease. We take away all the diseased tissues from the upper part of the antrum, then we carefully go backwards and inspect the bone near the sinus. In many instances of extensive disease it is very much better to expose this sinus.

The operation of opening the antrum may be done in several ways. You can do it with a hammer and chisel, which is the method usually employed, especially in Germany. I think, as a rule, in that country they use these instruments on the skull very much more than the English surgeons do. It is very greatly a matter of habit. I have used the hammer and chisel in other parts of the body sufficiently frequently, so that you will understand that I am quite in favor of this mode of sectioning bone, and from the manner in which I spoke yesterday, after performing that osteotomy [Macewen's operation for genu valgum performed in the operating theater of the college], you will be quite convinced on that point, but on the skull I do think the hammer and chisel is a barbarous method. Whatever you do in opening the skull in the case of a tumor—although here I also deprecate the use of the hammer and chisel—you must remember that you are now dealing with a different condition. You have here erosions with pyogenic infection, and the impacts of the hammer may lacerate the protective granulation tissue, and, through absorption, produce further extension of the mischief. I believe that cerebral shock and concussion have followed this violent impact to the skull, and I understand that this has been noted by

French surgeons, where some cases have resulted fatally from this practice. There is no doubt that by this method you can open the skull much more quickly, but surely we ought to adopt the mode which is best for the patient. With regard to the use of drills worked by machinery, of course one requires to speak very carefully. I will warn you also in regard to the use of the chisel in another direction. There are many different forms of chisels used, but sometimes they are very small, and the smaller the chisel the more dangerous it is. You can slip so very easily into that sinus.

The speaker illustrated this fact by a case in which a subsequent autopsy demonstrated that a cerebellar abscess had been opened through the mastoid and sinus with one blow of a very small chisel. He said: I would not like to use a chisel in that position. I very often use a gouge to remove the outer portions of the bone. This gouge is made with a large and flattened head, which can be held in the palm of the hand. The cutting edge is well beveled, so that in taking a shaving off, the moment the handle is depressed the edge will slip out; it will not go deeply into the tissues. This instrument should fit the operator's hand comfortably. In using it I often keep my finger as a guard over the instrument so that it will not cut deeply. Besides the gouge, I use a burr, and I find that some of the best burrs are made by an American firm—the S. S. White Company, o Philadelphia, to whom I always send for them. This burr is rotated by a surgical engine. You can take this instrument and run it over your finger nails, and it will put a nice surface upon the edge of the nail without cutting the soft tissues, unless you are extremely clumsy with it. If you can do this you can run over the sinus without the slightest hesitancy. It takes a longer time to remove a large amount of bone, but you are safe, and that I think is the great point with regard to any operation. The only way in which this burr may do mischief is with regard to the facial nerve. If you are not watchful for the hard portion of bone which marks the aqueduct, and especially if there be granulation tissue projecting out from it, you may do some little damage to the nerve. There is another point about the use of the burr, and that is you can leave a perfectly smooth surface after you have finished your operation. You lay all the cavities completely into one and then smooth it all over.

Another point is, suppose we believe there is an abscess in the brain. We can take away the bone very freely around the part, and if we find that the membranes are dark colored, or slightly yellowish, we can introduce any instrument, a pair of forceps or a bistoury into the cavity, taking care to keep within that area around which, as I have said, the membranes of the brain are "soldered" together.

In some cases you may be uncertain as to the exact location of the pus. Where I am going to search for pus I use a little instrument [instrument exhibited] which presents a blunt point, and in a recess posterior to this blunt point are a series of apertures. When this penetrates into the brain the tissue is shed on either side, but when it comes in contact with pus this escapes through the apertures. In using an ordinary needle or canula you very often take off a paring of the brain.

Whatever instrument you use, great care must be taken in removing every particle of slough. There are areas of the brain that have been killed by this pyogenic process, and you will often have a number of sloughs inside the cavity. If you simply take away the fluid and leave these sloughs they will give rise to secondary inflammation. After having thoroughly evacuated the cavity there is nothing further to do except to introduce, if you can, a little iodoform and boracic acid. The parts will come together very quickly. Sometimes, but only sometimes, it may be of service to drain such an abscess, but as a rule the brain, after you have allowed the pus to escape, will fill up the cavity until it is, in 10 or 15 minutes, quite level, and, therefore, as the cavity has been obliterated, there is no need for drainage. Remember, if you use a drainage tube, that this tube may, of itself, produce a mechanical impression which will set up a great deal of irritation, so that if you can avoid putting in a tube, by all means do so.

Should you wash out these cavities? I would advise any one who wishes to do so to be extremely careful about irrigating a cavity in the brain. You must first be quite certain that you have this soldering of the membranes so as to shut off the subdural space, if not, you inject this infected material into that space; and in that way it will disseminate the mischief. This I have actually seen occur in a case in which the operator would insist upon the introduction of fluid. In that case we saw very quickly a greatly distended pupil upon that side, which was quite indicative of increased brain pressure. If you desire to irrigate, you should introduce two canulas, a larger underneath and a smaller above, almost in contact, so that the fluid injected through the upper can escape through the inferior and larger exit.

The large space in the mastoid is packed with iodoform gauze and a quantity of iodoform and boracic acid. If you do that, then, in a fortnight afterward, you will have the opportunity of again looking at it. With regard to the mastoid operation, apart altogether from the lesion in the brain, there are two points to be considered as far as closure is concerned. If there is disease still about the internal ear, and you rather hesitate to remove it, then you must keep an opening patent, posteriorly. In order to keep that opening patent we allow the epithelium from the middle ear, the eustachian tube and the mastoid cuticular covering to meet. We paper the chamber, as it were, with epithelium, and therefore you have a patent opening that will not close as long as you have it lined with skin.

The speaker in conclusion said: There are many other points which I would like to have explained, but this little indicator, which measures the spark of eternity which we call Time, tells me that I must close. I have to thank all of the audience for the extreme courtesy and the very great patience with which they have listened to what I have had to say.

AN ADDRESS

Delivered at the Sixth Annual Meeting of the California Northern District Medical Society.

By A. W. Hoisholt, M.D., President, Stockton, Cal.

The Commitment in California of Persons Alleged to be Insane.

The lunacy laws relating to the commitment and detention of persons alleged to be insane, which are in effect at the present time in the State of California, have not been essentially modified for twenty years. The acts as passed by the legislature probably met the requirements at the time, considering the age of the community, but progress in the understanding of insanity and of the insane, together with that laxity in the execution of a law, which often develops with time, call, in my opinion, for a revision of our statutes.

The tenor of the lunacy laws in force to-day would seem to indicate that their makers, the legislators, did not properly appreciate that the examination of a person alleged to be insane should be a friendly proceeding in the patient's interest and for his protection, as it involves no personal disgrace, and as the person examined has not been guilty of any wilful violation of the law. The examination should therefore be devoid of everything which characterizes a criminal proceeding; every step should show a careful consideration for the welfare and feelings of an innocent and sick person. In so doing the erroneous ideas and the confusion that exist in the minds of the public relative to the nature of insanity might be overcome. The horror which the people, even at the present time, have of the insane, the mystery with which their knowledge of insanity has been surrounded and which years ago, and to some extent to-day, has caused them to associate insanity with obsession, might be set aside if they were made to understand that insanity is a disease of the brain, and that it is the lesion, and not its symptoms or outward manifestations, that constitutes the disease.

That, in the eyes of the law of the State, as passed in 1876, insanity is supposed to have a close connection with crime, and that insane persons are subjected to a treatment similar to that accorded criminals, and are not supposed to be persons suffering from illness, is directly implied by the language used. Thus, Article VI, Section 2210, of the Political Code, reads: "The magistrate of the county * * * must issue and deliver to some peace officer, for service, a warrant, directing that such person be arrested, etc." An act to provide for the future management of the Napa State Asylum for the Insane says, in Section 17: "The County Judge of any county in the State * * * shall summon to appear * * * two or more witnesses who well knew the accused * * * and if the Judge shall be satisfied that the facts * * * establish the existence of the insanity of the person accused, etc."

In practice the officers of the law plainly indicate that they interpret the law as closely associating insanity and crime, by confining criminals and persons alleged to be insane in one building, and frequently in one room. Although the commitment of an insane person is a judicial matter and a question of depriving a person of his liberty, there is no reason why the taking into custody and the detention should have a criminal character, or why the examination should be attended by the disturbances incidental to a trial in open court. An insane person being a patient, there should be nothing about his surroundings which could have an irritating or annoying influence upon him.

Before taking up the examination proper of a person alleged to be insane, I wish to direct attention to some of the experiences of those persons, under existing laws, prior to their reception at the asylum. The warrant for the "arrest" of the person "accused" of insanity is placed in the hands of a Sheriff or one of his deputies, who, not being acquainted with the real nature of insanity, is usually imbued with fear and dread of a being supposed to deport himself like a wild animal. In cases where there is restlessness and excitability, he does not wish to take any chances, and, to protect himself, resorts to unnecessary violence and restraint. From that time until the patient is received at the hospital for insane, the character of his surroundings and the treatment received at the hands of the officers, are only such as a layman might see fit to give.

After the arrest of the person alleged to be insane, or, as our law has it, the "accused," he is, in the large majority of cases, put in jail. Here he is given the medical care accorded a criminal. If he present symptoms of physical ailment, recognizable by the jailer or Sheriff, the jail physician is called in; otherwise he is not. He is given the food with which the other inmates are supplied—if he will eat it. In cases where there is refusal of food he is not fed by tube or otherwise. In some jails there are separate rooms or cells for the insane, but in many cases they occupy a room with others, usually drunks or disorderlies. Frequently, according to the remarks of many newcomers at the asylum, who were rational enough to remember and to relate the occurrences, these individuals would tease, deride, and sometimes abuse them, provoking fights in some cases, an increase of morbid fears in others, and giving hallucinations and delusions in all a better foot-hold. Only a few jails in the State are provided with suitable rooms for violent cases of acute mania or extreme melancholy excitement.

What is perhaps worse of all, the cases while in jail are not even kept properly clean; baths are seldom given and vermin prevail, I am ashamed to say, in most California jails. During the seven years that I have examined most of the men admitted to the State Insane Asylum at Stockton, over 50 per cent. of all patients who had been inmates of jails, had vermin on them; and usually they were so covered with lice that their clothes had to be burned. I say all patients who had been inmates of jails, as there is a small minority that are taken directly into Court from their homes. Sheriffs usually give as an excuse for this condition of the jails and the inmates, that they have to receive so many tramps, drunks, and disorderlies. This may be true, but that does not make it right to use county jails as city lock-ups, and for at least part of the twenty-four hours associate persons suffering from mental disease with criminals, tramps, and drunks. Proper places for the temporary detention of persons alleged to be insane would have to be provided, as far as this State is concerned, in county hospitals, as the State is too large to allow the introduction of a system in vogue in some of the Eastern States, where such persons are sent to the nearest insane asylum for a period not to exceed 5 to 7 days pending their examination and commitment.

The transfer of the person declared to be insane from the Court or jail to the insane asylum is managed by the Sheriff or his deputy, without the advice of a medical man acquainted with the nature of insanity and the ways of the insane. It is a common thing for the Sheriff's officer to deceive the insane as to their destination or the character of the institution to which they are being taken, which often has a very bad effect upon the patient. We have a patient, admitted to the institution in July, 1895, who presented symptoms of an acute paranoia when received. He was told that he would only have to stay two or three weeks, and would then be taken East to relatives. The disappointment of the patient was most extreme, when informed by the attending physician that no such arrangement had been or could be made, and his belief remained fixed that he had been made the victim of a conspiracy. I am inclined to think that this behavior of the officer has had much to do with the ultimate systematization of hallucinations and delusions which is now present. In a very recent case the officer told the patient that he would only stop at the asylum for dinner and would then be put on the train to go to Iowa. The patient was considerably disturbed and very restless after he had had his dinner and found that the officer did not call for him.

The question of the necessity of restraint is left entirely to the Sheriff, and he is frequently too ready to put it on, in cases where it is unnecessary, or to resort to extreme and even cruel measures where the case is a violent one. In a case recently received from San Francisco the patient, attended by three able-bodied men, was restrained in a tight-fitting canvas coat reaching almost to his heels, and fitted with buckles at intervals behind, which allowed very little motion of the lower extremities (walking was impossible), while the arms were fastened as in a cammisole. Under this he wore a coat and a pair of pants, otherwise no garments of any kind—he was bare-headed and bare-footed. When liberated in the asylum he gave the attendant no trouble. In another case, received from one of the mountain counties, the patient was tied up in ropes which made circles around his limbs and body that were only a few inches apart, and the rope had to be cut in a number of places to liberate him. In still another case a patient was brought to the asylum, who had first been tied with bed-cord and then enshrouded in a mattress, around which the cord made numerous turns, about 100 feet being used in tying him. When liberated he was found drenched with perspiration.

With such cases in evidence, is it not time that steps be taken to secure to the insane, at least some of the rights and privileges of a sick person, which they certainly do not enjoy after they have been arrested by a Sheriff's officer and placed in jail. On account of the inexperience of Sheriff's officers, and their ignorance in matters pertaining to the care of the insane, it has been regulated by law in the State of New York, Article III, Sec. 62, that "the Superintendent of the State Hospital shall be immediately notified of such commitment, and shall at once make provision (through a trained attendant) for the transfer of such insane person to such hospital."

The State insane asylums of California have for years received patients from the prisons at Folsom and San Quentin; namely, convicts who have been declared insane by the Warden and prison physician, a number of whom have been found to be simulants that, in due time, were returned to the prison. It is seldom that such cases are cured, probably on account of the hereditary and degenerative nature of most convicts. For this reason the majority of prisoners sent to the asylum become permanent inmates. The varied character of their mental illness and the limited number of patients of this kind interfere with their isolation, and, to some extent, force the more or less intimate association of criminal and non-criminal insane, which, for several reasons, should not exist.

The Hon. Wm. T. Letchworth, of New York, who has had a large experience in questions relating to the insane, expresses himself on this subject in a memorial to the Legislature of the State of New York, in 1892, as follows: "The admission of insane criminals into State asylums greatly embarrasses the administration of these institutions, and their presence there is a constant menace and source of anxiety. The convict insane are usually debased and not infrequently extremely dangerous characters before becoming insane. Some are made so, or at least become dangerous, by efforts to discipline them in prison, and are so profane, defiant, and abusive, as to make them improper associates for the insane ordinarily committed to asylums. When it becomes necessary to deprive a respectable person of his liberty, it is neither just nor proper to compel him to associate with the guilty and corrupt, whose society would be intolerable to him if he were in a state of mental health. Such forced association creates a sense of personal wrong on the part of the non-criminal insane, and is an obstacle in the way of their recovery. In the care of the criminal insane, a primary consideration is the safety of society. To make the asylum sufficiently strong to retain them, cunning and ingenious as many of them are, and to provide an adequate system of watchfulness over them, gives to an ordinary asylum too much the character of a prison. The officers, keepers, and guards are selected with reference to the care of criminals, and the regulations and discipline of such establishments are not in keeping with the needs of the insane. But in the attempt to deal humanely and justly by the convicts who become insane, in transferring them to the lunatic asylum, a great injustice is done the non-criminal insane. The commingling of convicts with persons occupying a respectable position in society, particularly those who are acutely sensitive or subject to hallucinations of a persecutory nature, cannot fail to have an injurious effect."

The person alleged to be insane is, either directly upon his arrest, or, in the majority of cases, after he has been detained in the county jail for a certain length of time, brought into Court for examination.

This examination is usually held in open Court under circumstances similar to the preliminary examination of a common criminal. Although there is no law regulating the place of holding such examination, some Judges outside of San Francisco have, in a few instances, out of consideration for the relatives, especially in the case of female patients, made the examination at the home or sojourn of the patient. In the large majority of instances, the person is examined where he is exposed to the gaze of curiosity-seekers, who usually infest the court-rooms, or of persons besides the Judge, the examining physicians, and the witnesses summoned. The laws of Wisconsin and Illinois, which contain provisions for holding inquests in lunacy at the home of the person alleged to be insane, and which requires the public to withdraw from the court-room during such examination, are humanely designed to protect the patient from exposure and ridicule. This law has, in California, thanks to the good sense of some Judges, been followed in exceptional cases, but it should be enforced in all.

The examination, in California, is made by two physicians, which is also the method in force in most of the States and abroad. In the State of Illinois a different method is in vogue, namely, that of examination by jury, but in that State, wherever trial by jury has been practised, it has proved a failure. Aside from the humiliation to the patient and his friends, which this quasi-criminal procedure causes, it has, in Illinois, become a farce. A certain day used to be set apart, known as "Insane Thursday," on which "conviction" was a mere matter of form. The surroundings of such trial by jury are almost sure to force upon the melancholiac the conviction that he has committed a crime, and in other cases to form a basis for ideas of persecution and conspiracy.

The California law makes the very simple requirement that the physicians summoned to settle the question of insanity shall be regular graduates in medicine. Under the present law regulating the practice of medicine in California, the qualifications demanded to obtain a license are such that almost anybody can practise medicine under one or the other "school." When, then, a Judge thinks he must patronize all alike, and perhaps fails to see any difference between 'pathies, the result is that uneducated and psychiatrically incompetent persons are called upon to decide on the one hand, whether the person should, for his own sake, be subjected to detention in an asylum, and on the other hand, whether the State should incur the expense of keeping him. If one may judge of the summoned physicians' knowledge of insanity by the manner in which the commitment papers have been filled out, which have been received at the Stockton Asylum during the last seven years, then only a small percentage of the physicians subpenaed are competent, or else they earn but a small fraction of their fee. It is a common thing to receive commitment papers at the asylum (especially from San Francisco, where a few physicians have been constituted Lunacy Commissioners, their qualifications based upon the influence or "pull" they have with the Judge), which give no information whatever. They are without history, without symptoms, without diagnosis—the total number of words written down on the medical examination being often but three or four.

The knowledge of insanity which some examining physicians apparently have, may, perhaps, be inferred from a conversation a friend of mine had a number of years ago, with an American physician, when abroad. In justice to the American medical profession I must, however, add that he was not a representative member of the profession, but considerably below the average. "We were talking about a course in clinical psychiatry, just then being given at the University, when the physician said he had examined a good many insane people in the Courts of Chicago. He had a 'pull' with one of the Judges there, and was often subpenaed." When told that the physician had never studied insanity, my friend wondered how he could tell whether the person was insane or not. The Chicago doctor answered, "Why, that is easy enough. If I see a person dancing a jig on the sidewalk with his hat on the back of his head, I would guess he was either a nigger or he was tipsy, but if I should be told that a person was seen dancing on the street during the daytime with nothing on but his nightshirt, I think I could be pretty sure he was crazy."

It is true that some cases of insanity are so demonstrative that any intelligent person could give a correct opinion, but they constitute a small minority; for this reason the examining physician should be well educated and have some knowledge on the subject of insanity. In the States of New York and Pennsylvania, the medical examiners must be reputable physicians, graduates of an incorporated medical college, who have been in the actual practice of their profession for at least three years, and have filed with the commission a certified copy of the certificate of a Judge of a Court of Record, showing such qualifications in accordance with forms prescribed by the commission. (Insanity law of the State of New York, Sec. 61.) It has been recommended, and I think has been enacted, since the passage of this law, that medical examiners in lunacy in the State of New York should have had at least five years' experience in the practice of medicine.

The information of medical import obtained at the examinations of persons alleged to be insane in our State is, as a rule, very slight, sometimes on account of the incompetency of the examiners, sometimes on account of the impossibility of obtaining any history of the case, but very often simply on account of the non-statement of the information obtainable. If the way some of the examination blanks, especially those received from San Francisco, are filled out is an indication of the thoroughness of the examinations, then the Judges of the Superior Courts might as well summon laymen to act as experts in insanity.

It would not be too much to expect the examining physicians to exercise the same care and apply the same time to a case when employed by the county as when engaged in consultation in private practice. If such care were exercised to bring forward as much testimony as possible in the way of history, etc., and if an accurate report of the proceedings at the examination were made, it would materially aid the asylum physician in his investigations.

It would be unnecessary, or at least inexpedient, to have the examiners in lunacy follow the same schedule in their examinations as the one prescribed in the text-books, still some facts connected with the family and personal history and present condition should be elicited. It is true that every now and then cases are met with where almost no family or personal history is obtainable, as in the cases of tramps, or of persons without friends or relatives. In such cases there remains to be had but a detailed report of the testimony of witnesses as to the behavior of the individual prior to his apprehension by the authorities, together with the results of a thorough objective and subjective examination into his present condition.

With regard to the family history, the question of neuropathy should first be inquired into, whether cases of insanity or nervous diseases, such as epilepsy, hysteria, chorea, hemicrania, neurasthenia, cerebral or spinal diseases had occurred among ascendant, collateral or descendant members of the family, and at what age such disease developed; whether cases of suicide, addiction to liquor, crimes, deaf-mutism, apoplexy, tuberculosis, or scrofula had been observed in the family, and in what members.

A complete personal history can rarely be obtained. It is seldom that parents or relatives of the person alleged to be insane attend the examination, and are able to give information concerning the health of the mother during the fetal life of the individual, his history during infancy, childhood, and puberty, and up to the time of the beginning of the present disease.

The personal history would further deal with the possible causes and prodromes of the present illness; whether it is the first attack, and, if preceded by other attacks, the symptoms, course, and termination of such; whether the present illness began suddenly or gradually, and with what prodromal symptoms. These are failure of memory, diminished mental capacity, dulness or irascibility, change of character, moral depravity; in other cases dejection of spirits, fretful temper, fear of becoming insane, life-weariness; in still other cases, elatedness, talkativeness, restlessness, tendency to roam about, squandering disposition; or an inimical, suspicious, irritable, jealous behavior, with complaints of being despised, slandered, threatened. Inquiry should be made into the condition of the appetite, the bowels, sleep, menstruation prior to the attack; the existence of pain in the head, vertigo, precordial sensations, neuralgias, disturbances of speech, apoplectic, vertiginous or epileptic attacks, the history of syphilitic infection; addiction to the habitual use of alcohol, opium, or other narcotic; finally, whether the prodromal symptoms were continuous, remittent, intermittent, and in what consecutive order they appeared.

In many cases this information is only obtainable to a limited extent, and in some cases one is entirely in ignorance as to the family history or prodromal symptoms; but in all cases there is something to be learned as to the present condition. There is no excuse for blanks left in answer to questions when the examiner has simply to make use of his powers of observation. It is true that an examiner in lunacy might find it inexpedient to make a microscopical examination of the blood and urine, to make craniometric measurements, ophthalmoscopic examinations of the retina, gynecological examinations, etc. He can, however, ascertain the presence or absence of cyanosis or anemia, the apparent condition of the nutrition of the body, whether signs of decrepitude are in keeping with the age, the form and size of the head, the presence or absence of anomalies or deformities about the head and face, trunk and extremities, the temperature of the body, the frequency and quality of the pulse.

Examination of the organs of sense and of the general sensibility is also possible; the presence or absence of paralytic symptoms about the cranial nerves, such as faulty facial innervation, inequality of the pupils, strabismus, ptosis, defects of speech, incoördination, tremor, paralysis in the extremities, of the sphincters, catalepsy, muscular spasms, etc., can be noted. An examination into the condition of the secretory and trophic functions, the carriage of the patient, the glance of his eyes, the expression of the face, and his gestures, may also be included.

Following the physical, a psychical examination should be made of the patient. While some patients are reticent, seclusive, and do not answer questions, still much can be accomplished by an objective examination, even in this direction. The examiner may ascertain: (1) The mood or feelings of the patient, the changeablensss of his temper, his cognizance of surroundings, increased or diminished reaction to events in the outside world. (2) The range of ideas, whether diminished or increased, incoherent or confused. (3) The state of consciousness, whether clouded, and in what direction as regards place, time, or person. (4) The condition of the memory, improved or dulled, partial or general. (5) The sensory perceptions, whether quickened, or retarded, or absent. (6) Whether the patient is able to express his thoughts clearly, or is slow and has difficulty in making himself understood. (7) The condition of his moral understanding and judgment. (8) The condition of the ambition, whether increased (impetuosity) or diminished (abulia or loss of will-power). (9) The existence of hallucinations or delusions.

It is to be hoped that our Governor and Legislature will so modify the California lunacy laws relating to commitments that they will not, as they are now, be dominated exclusively by considerations for the welfare of the community; *i. e.*, the relationship of insanity to dangerousness at large, but that the insane—the patients themselves—will receive their share of consideration. The course pursued under the existing laws does not lead in the direction of cure of the disease; *i. e.*, the proper temporary care, which the nature of the illness may demand, but in the main shows consideration only for things pertaining to restraint and confinement. Due consideration, medical and otherwise, for the individual, the patient, is not only proper from a humane but also from an economic standpoint.

A well-known authority on this subject, Dr. Carlos F. McDonald, of New York, has computed that every insane dependent represents a pecuniary loss to the State of, approximately, $400, in cost of maintenance and in loss to the wealth of the State, for each year that he remains under care as a public charge. Dr. McDonald says: "But even though the individual contributed nothing to the wealth of the State when sane, it would still be in the interest of economy to provide for him, when he becomes insane, such environment and such treatment (during his temporary detention prior to his admission to the asylum, as well as after he becomes an inmate of the latter), as will insure every opportunity of restoring him to the ranks of the wage-earners, or at least of enabling him to return to his home, and thus relieve the public of the burden of his support."

THE TREATMENT OF TUBERCULOSIS AND OTHER INFECTIOUS DISEASES WITH OXYTOXINES—PROVISIONAL REPORT.

By JOS. O. HIRSCHFELDER, M.D., Professor of Clinical Medicine, Cooper Medical College, San Francisco.

The following provisional report of my investigations upon a new method of treatment of tuberculosis and other infectious diseases, is a resume of a longer article which is about to appear elsewhere.

We have so often been deceived of late by new cures, that it behooves members of the profession to exercise due care before accepting a new claimant of their favor as being worthy to receive it. I shall, therefore, expect, and I desire a sceptical but honest scrutiny of my propositions by those who are in a position to make the proper clinical and experimental researches.

We all know that a number of cases of consumption heal themselves. At every *post-mortem* table we find, written upon the cadaver, the evidence of nature's cures. It therefore seemed probable that, by a judicious study of what takes place when the cure does occur spontaneously, we might be able to imitate the act and lead our patients to health. In the formulation of my theory, the observation of such cases has guided me; in fact, it was the investigation of cures that were, so to speak, accidental, that taught the principle upon which my efforts have been based.

The theory which lies at the foundation of the therapeutic measures about to be described is even more important than the results themselves, for, if it should be found to be correct, it will be an addition to our biological knowledge of the greatest scientific importance. The theory was thought out early in October, 1895, and the various modes in which it might be practically applied were made clear before a single step was taken. In other words, the theory was not evolved from the therapeutic results, but the mode of treatment was a consequence of the biological proposition. The therapeutic success may, therefore, be looked upon as a verified prediction, and hence has far greater evidential value than it otherwise could have. Treatment of patients by the new method was very cautiously begun on October 22, 1895, and, as the results warranted, the doses administered were gradually increased, until after a few months, efficient quantities were injected. I am pleased to be able to say that, to my knowledge, no patient has been injured by its use.

Ever since 1864 the medical profession has known that opening the abdomen in tubercular peritonitis oftentimes cures, not only the local but likewise the distant tuberculosis. It has seemed to me that such a result could be due only to the entrance of air into the abdominal cavity, and that in all probability the tuberculine present in the fluid within the cavity would thereby become oxidized. I inferred therefrom, that the antitoxines that develop in the body were simply oxidized toxines. This theory seemed most highly probable from an *a priori* standpoint, for we know that oxidation is the most universal of all the chemical actions of the organism. If this theory were correct, it ought to be a simple process to manufacture the antitoxines directly from the toxines in the laboratory.

After long and patient search, a method was discovered which seemed to accomplish this task completely. It was found that heating the toxines with the peroxide of hydrogen at 100° C. for four days, produced this change, and that instead of having a deadly poison we obtained its antidote.

This method will, in all probability, apply to every one of the infectious diseases whose germ we can cultivate and from which we can obtain the toxine, such as pneumonia, typhoid fever, diphtheria, cholera, pus infection, anthrax, and the many others that bacteriology has made known to us. At present we are mainly interested in tuberculosis, the successful treatment of which by this method has been demonstrated by clinical investigation beyond the possibility of a doubt, in early cases; that is, before cavities have developed in the affected lungs. Detailed reports of some of the cases treated are given in the longer communication above referred to.

The substance I have used is called "oxytuberculine," as it is simply oxidized tuberculine. It is made in the following manner: 60 c.c. of Koch's tuberculine are mixed with 240 c.c, of a 10 per cent. solution of the peroxide of hydrogen and distilled water added to 936 c.c. The mixture is placed in a stone jug, stopped with cotton, and the neck covered with a rubber cap. This is sterilized in a steam sterilizer continuously for 96 hours. At the end of this time the liquid has become darkened and turbid. Its reaction is also highly acid. It is next clarified by a solution of caustic soda. In order that it may not readily decompose, 5 per cent. of boric acid is added and the mixture is filtered. It is then sterile and is ready for use.

In the preparation of this oxytoxine, the greatest possible care is necessary, for if any appreciable quantity should escape oxidation, fatal tuberculosis poisoning might result from the large quantity that must be administered. It should be carefully tested first on animals and then on patients.

But as the large majority of consumptives suffer not only from the effects of the tubercle bacillus, but even more from various other bacilli and cocci which are the main cause of the breaking down of the living tissue and of the fever, I have made an oxysepsine which is now given in combination with the oxytuberculine. A culture of the sputum of a case of tuberculosis with high fever gives us the material used. I am still experimenting to find the best sputum and the best culture medium for the purpose. The culture fluid in which the mixture of the various germs in the sputum has grown is added to an equal quantity of solution of peroxide of hydrogen and sterilized for 96 hours by the same method as that used in making the oxytuberculine. The resultant fluid is treated in the same manner.

Immense doses of the oxytuberculine, as well as of the oxysepsine may be injected without causing the slightest discomfort to the patient. As much as the equivalent of 1,000 milligrammes of Koch's tuberculine, and as much as 60 c.c. (℥ii) of the oxysepsine have been repeatedly injected hypodermically, without occasioning the slightest rise of temperature or any other unpleasant effects. As a rule, about 5 c.c. (80 minims) of the oxytuberculine and 10 c.c. (160 minims) of the oxysepsine are injected daily under the skin. The greatest care must be observed that the instruments and the liquid are sterile so as to avoid infection. In many thousand such injections made by me, I have never observed either an abscess or even an induration of the skin. There is no rise of temperature or any other unpleasant symptoms following the injection.

In early cases we find that in a very few days the cough and the expectoration diminish, but the most striking effect is the rapid improvement in the appearance of the patient. His eyes become bright and his color changes from the gray hue of tuberculosis to one more nearly resembling that of health. The appetite rapidly return and with it a feeling of vigor which is most pleasant both to the patient and to the physician. This is especially apparent in very early cases in which there is little or no fever. In cases in which only slight fever is present the high temperature soon diminishes and in many cases becomes entirely normal. The bacilli of tuberculosis in the sputum may rapidly diminish and disappear altogether, as I have found in a number of cases. Every physician has seen tuberculosis cured, but it has never before been my good fortune to witness such rapid changes as have taken place with several cases treated by this method—cases which had been examined by other physicians both before and during the treatment.

One of the most striking demonstrations of the value of the remedy occurred in a local tuberculosis of the hand. A physician infected the dorsum of his right hand and an ulceration developed which microscopic examination showed to be tubercular. It was treated in the usual manner without results so that the surgeon was about to make an extensive excision, to be followed by skin grafting. Instead thereof, local applications of the oxytuberculine were made and very rapid healing took place, leaving behind the same kind of scar as would have resulted from a non-infected ulcer.

If any test of the method should be made by members of the profession, I would earnestly request that, provisionally, only early cases be treated, in which there is no development of cavities in the lungs, and in which the fever is slight and the constitutional symptoms such that a return to health may reasonably be expected. I have seen very decided improvement in advanced cases, but several such have died in spite of vigorous treatment. In some of the latter cases *post-mortem* examination has shown the effort made by nature to repair the damage.

The subject of the oxytoxines is one that will require long continued experiment upon animals and cultures before we will know its limitations. For the present, however, it would be unwise to expect miraculous cures of patients in the last stages of consumption.

San Francisco, August 31, 1896.

DEPARTMENTS.

OBSTETRICS, GYNECOLOGY AND PEDIATRICS.

By WALLACE A. BRIGGS, M.D., Sacramento, Cal., and

WM. FITCH CHENEY, B.A., M.D., Adjunct to the Chair of Obstetrics and Diseases of Women and Children, Cooper Medical College, San Francisco, Cal.

The Bicycle for Women.—This important subject is considered by DR. DICKINSON (*American Gynecological and Obstetrical Journal*), in a paper entitled Saddles and Postures for Women on the Wheel. He illustrates his remarks by several photographs, comparing the nude female, the draped female, and the skeleton in various positions on the bicycle, and by placing these side by side, a very scientific idea is obtained of the right and the wrong way for women to ride. He adds photographs of the nude female at a sewing machine and on horseback, as additional aids for comparison, and without these before the reader, no accurate conception can be made of their value. The author devotes a considerable space to the construction of the saddle; he very properly says that saddles must differ, as pelvic floors, buttock contours, and thigh modellings differ. Theoretically, the broad seat with a very short and blunt pommel in front, would seem the ideal saddle for women. Each rider should be *fitted* with a seat, and in order to do this "she sits in a tray of modeling clay, which is fastened to the bicycle like a seat in such a fashion that the wheelman propels the wheel while the impression is being taken." Au aluminium plate is made over this and then covered with felt and leather.—*Practitioner*, October. 1896.

Fibroid Tumors of the Abdominal Wall.—DOLÉRIS and MANGIN (*La Gynécologie*), record two cases occurring in sisters, recurrence was observed in one patient. Doléris removed a fibromyoma as large as an egg from the right groin of a woman, aged 37. It had developed a few months after the removal of an ovarian tumor in April, 1890, shortly after recovery from the fourth labor. The

the sputum of a case of tuberculosis with high fever gives us the material used. I am still experimenting to find the best sputum and the best culture medium for the purpose. The culture fluid in which the mixture of the various germs in the sputum has grown is added to an equal quantity of solution of peroxide of hydrogen and sterilized for 96 hours by the same method as that used in making the oxytuberculine. The resultant fluid is treated in the same manner.

Immense doses of the oxytuberculine, as well as of the oxysepsine may be injected without causing the slightest discomfort to the patient. As much as the equivalent of 1,000 milligrammes of Koch's tuberculine, and as much as 60 c.c. (℥ii) of the oxysepsine have been repeatedly injected hypodermically, without occasioning the slightest rise of temperature or any other unpleasant effects. As a rule, about 5 c.c. (80 minims) of the oxytuberculine and 10 c.c. (160 minims) of the oxysepsine are injected daily under the skin. The greatest care must be observed that the instruments and the liquid are sterile so as to avoid infection. In many thousand such injections made by me, I have never observed either an abscess or even an induration of the skin. There is no rise of temperature or any other unpleasant symptoms following the injection.

In early cases we find that in a very few days the cough and the expectoration diminish, but the most striking effect is the rapid improvement in the appearance of the patient. His eyes become bright and his color changes from the gray hue of tuberculosis to one more nearly resembling that of health. The appetite rapidly return and with it a feeling of vigor which is most pleasant both to the patient and to the physician. This is especially apparent in very early cases in which there is little or no fever. In cases in which only slight fever is present the high temperature soon diminishes and in many cases becomes entirely normal. The bacilli of tuberculosis in the sputum may rapidly diminish and disappear altogether, as I have found in a number of cases. Every physician has seen tuberculosis cured, but it has never before been my good fortune to witness such rapid changes as have taken place with several cases treated by this method—cases which had been examined by other physicians both before and during the treatment.

One of the most striking demonstrations of the value of the remedy occurred in a local tuberculosis of the hand. A physician infected the dorsum of his right hand and an ulceration developed which microscopic examination showed to be tubercular. It was treated in the usual manner without results so that the surgeon was about to make an extensive excision, to be followed by skin grafting. Instead thereof, local applications of the oxytuberculine were made and very rapid healing took place, leaving behind the same kind of scar as would have resulted from a non-infected ulcer.

If any test of the method should be made by members of the profession, I would earnestly request that, provisionally, only early cases be treated, in which there is no development of cavities in the lungs, and in which the fever is slight and the constitutional symptoms such that a return to health may reasonably be expected. I have seen very decided improvement in advanced cases, but several such have died in spite of vigorous treatment. In some of the latter cases *post-mortem* examination has shown the effort made by nature to repair the damage.

The subject of the oxytoxines is one that will require long continued experiment upon animals and cultures before we will know its limitations. For the present, however, it would be unwise to expect miraculous cures of patients in the last stages of consumption.

San Francisco, August 31, 1896.

DEPARTMENTS.

OBSTETRICS, GYNECOLOGY AND PEDIATRICS.

By WALLACE A. BRIGGS, M.D., Sacramento, Cal., and

WM. FITCH CHENEY, B.A., M.D., Adjunct to the Chair of Obstetrics and Diseases of Women and Children, Cooper Medical College, San Francisco, Cal.

The Bicycle for Women.—This important subject is considered by DR. DICKINSON (*American Gynecological and Obstetrical Journal*), in a paper entitled Saddles and Postures for Women on the Wheel. He illustrates his remarks by several photographs, comparing the nude female, the draped female, and the skeleton in various positions on the bicycle, and by placing these side by side, a very scientific idea is obtained of the right and the wrong way for women to ride. He adds photographs of the nude female at a sewing machine and on horseback, as additional aids for comparison, and without these before the reader, no accurate conception can be made of their value. The author devotes a considerable space to the construction of the saddle; he very properly says that saddles must differ, as pelvic floors, buttock contours, and thigh modellings differ. Theoretically, the broad seat with a very short and blunt pommel in front, would seem the ideal saddle for women. Each rider should be *fitted* with a seat, and in order to do this "she sits in a tray of modeling clay, which is fastened to the bicycle like a seat in such a fashion that the wheelman propels the wheel while the impression is being taken." Au aluminium plate is made over this and then covered with felt and leather.—*Practitioner*, October. 1896.

Fibroid Tumors of the Abdominal Wall.—DOLÉRIS and MANGIN (*La Gynécologie*), record two cases occurring in sisters, recurrence was observed in one patient. Doléris removed a fibromyoma as large as an egg from the right groin of a woman, aged 37. It had developed a few months after the removal of an ovarian tumor in April, 1890, shortly after recovery from the fourth labor. The fibromyoma was removed on August 3, 1891; it involved the transversalis and obliquus internus, and adhered below and posteriorly to the periosteum of the ilium. On March 27, 1895, Doléris removed a tumor identical in nature and situation from the patient's sister. She had been once pregnant, five years earlier. The tumor recurred, and Mangin removed it on February 6, 1896, the second operation proving rather difficult, as the peritoneum, incorporated with the growth, adhered to intestine and omentum. Gombault found that this secondary growth, like the first, and like the tumor removed from the patient's sister, was a fibromyoma and not malignant. Mangin remains a little doubtful about its histology. The authors refer to Labbé and Rémy's work on the subject, published in 1888. Only 4 per cent. occur in males, and they rarely develop in nulliparæ. Le Dentu describes a fibroid growth which developed in the scar of an abdominal section seven years old. In four cases, besides Doléris and Mangin's two examples, the growths were reported as true fibromyomata.—*British Medical Journal*, October 10, 1896.

SURGERY AND ANATOMY.

By T. W. Huntington, B.A., M.D., Surgeon Southern Pacific Company's Hospital, Sacramento, Cal., and

Geo. B. Somers, M.D., San Francisco, Cal.

Anastomosis Buttons.—Dr. M. H. Richardson, of Boston, states that he does not believe in mechanical devices for intestinal work, except where the patient is *in extremis*.—*Boston Medical and Surgical Journal*, July 23, 1896.

Pain After Nephrorraphy.—The following is taken from an article on cases illustrative of renal surgery (*Boston Medical and Surgical Journal*, July 2, 1896): "During the first six days the patient suffered a degree of pain such as I have never seen follow any surgical operation. The urine diminished in quantity during this time, and it was feared to give large doses of morphine, such as would have been required to stop pain. She had, however, subcutaneous doses of one-quarter grain 3 or 4 times in the 24 hours, but these were almost without effect. The only relief to pain was found in the sitting posture, and the patient could not be kept on her back in consequence."

Inguinal Hernia.—Professor Lannelongue recently presented four boys to the meeting of the Académie de Medicine, on whom he had attempted the radical cure of inguinal hernias by injecting deeply around the canal a few drops of a 10 per cent. solution of chloride of zinc. Eighteen days had elapsed since the operations; the immediate result of these injections was a hard and voluminous swelling of the scrotum and the inguinal canal. When the patients were made to cough no shock could be felt in the inflammatory mass. The speaker declared that in point of view of ultimate curative result, he could not as yet pronounce definitely, but that he would present the lads again after a considerably longer period.—*Medical Press and Circular*, July 15, 1896.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

By Wm. Ellery Briggs, M.D., Sacramento, Cal.

The Treatment of Corneal Opacities by Electrolysis.—In a paper on the treatment of corneal opacities by electrolysis Dr. Edgar Stevenson says that a current of one-quarter to one-half milliamperes and a pressure of three volts should be used. The anode is placed on the cheek of the opposite side, and the cathode, consisting of a smooth silver probe, is applied to the corneal opacity and gently moved over the surface. A milliamperemeter and rheostat should always be used, and great care exercised that the current does not exceed one-half milliampere. Not more than fifteen consecutive applications should be made, as there is danger of softening the cornea.—*Medical News.*

The Treatment of Diseases of the Nose and Ear with Oxygen Gas.—DR. GEORGE STOKER reports several cases of ozena and chronic suppurative disease of the middle ear treated with beneficent results by oxygen gas. The gas is contained in a wedge-shaped mackintosh bag, from which leads a tube that terminates in a nose or an ear piece. The author uses equal parts of oxygen and air, purified by being passed through water and then through Condy's fluid, in most of the cases. In treating nasal disease one nostril is closed with a piece of cotton, the patient is instructed to breathe through the mouth, the nose-piece is inserted in the other nostril, and the gas turned on. In the treatment of ear disease the ear-piece is inserted in the tube and is then inserted into the auditory meatus. The gas is allowed to pass into the nose or ear from three to six hours daily. In nasal cases it is best to administer the gas for half an hour or an hour at a time, with intervals of rest. The only additional treatment is the use of warm water to cleanse the parts during the day. The author's experience in the cases treated is unusually favorable.—*New York Medical Journal*, August 29, 1896.

DERMATOLOGY, SYPHILIS AND VENEREAL DISEASES.

Prurigo.—The question of prurigo was considered of sufficient importance to occupy an entire evening at the recent International Congress of Dermatologists, in London. The discussion, which was participated in by E. Besnier, White, Payne, McCall Anderson, Unna, and various others, is summed up by Sabouraud as follows: Prurigo has no proper lesion. The lesions which are seen are polymorphous. Only one of its symptoms, a functional one, is constant—pruritus. Scratching is the important factor in the objective lesion, which varies according to the tegumentary reaction (urticaria, lichen, etc.) of the individual and the secondary infection. At the base of prurigo there is a nervous lesion, the cause of the itching, the result of chronic intoxication, usually of autointoxication of visceral origin. Sabouraud thinks the discussion decided the triumph of the French doctrine (Besnier, Brocq, Jacquet) over that of Vienna (Hebra). *Medical Record*, October 3, 1896.

Itching, and its Treatment by Large Doses of Calcium Chloride.—SAVILL says (*Lancet*, August 1, 1896): Itching is always the expression—*i. e.*, the symptom or evidence of some irritation either of the nerve endings or of the centri petal nerve fibrils. It may be (*a*) primary, when no eruption is present, or when it only appears secondary, or (*b*) secondarily, where the itching accompanies or succeeds some manifest eruption on the skin. The nerve endings and the nerve fibrils are continuously bathed in the lymph, which, by the law of diffusion, corresponds in composition with the blood so far as its soluble and diffusible constituents are concerned. Retention of blood poisons, imperfect oxygenation, etc., would produce irritation of nerve endings, as well as external irritation. Excess of uric acid might be the blood change in primary pruritus, but that is a matter of conjecture. The author has met with success in both primary and secondary pruritus, especially the former, from the use of calcium chloride in doses of not less than 20 grains, three times a day after meals. The dose should be gradually increased; 30 or 40 grains have often succeeded where less have failed. Prof. Wright, of Netley, states that calcium chloride increases the coagulability of the blood.

What Effect do Diet and Alcohol have upon the Causation and Course of the Eczematous Affections and Psoriasis?—Dr. J. C. White, of Boston, in opening a discussion on this subject, before the American Dermatological Society, said that little new in this line had been brought out at the recent Congress in London, the President of which had expressed his continued belief that leprosy was due to a certain article of diet. Some recent discussions have shown that observations of the past have been so inexact that no trustworthy conclusions can be drawn from them. The importance of the bearing of diet upon eczema has been shown to be greatly overestimated. It has also been denied that the existence of eczema proves the coëxistence of gout. Improper selection of food, its improper preparation, and the use of foods containing toxic properties are all harmful. In certain nomadic tribes the diet is largely animal; among certain religious sects it is almost exclusively vegetable; while it is only recently that certain inland people have had fish as a common article of diet. In spite of these opportunities, the therapeutic test has rarely been applied on an extensive scale. Articles of food which increase the cutaneous circulation or excite the nervous system and so exaggerate a pruritus, certainly have a bearing upon eczema. The diet in this disease should be the same as in all other inflammatory processes. As he does not recognize any connection between eczema and any so-called diathesis, he would deny the efficacy of systems of diet based upon the existence of such diathesis. He recognized both a direct and an indirect influence on the maintenance of the disease by alcohol, but did not regard it as an important factor in its causation. Personally, he believed that diet and alcohol had no influence on the causation and course of psoriasis in general, but in exceptional types they have a temporary importance. The successful treatment of these two diseases is still a matter of empirical experimentation.—*Medical Record*, October 3, 1896.

MATERIA MEDICA AND THERAPEUTICS.

By Wm. Watt Kerr, M.A., M.B., C.M., Professor of Clinical Medicine, University of California, San Francisco.

Bromide of Strontium in Epilepsy.—Dr. V. Roche presents a second series of cases treated by this remedy. Eight of the patients were males and four females; the ages ranged from ten to fifty, in none was any family predisposition admitted, none could assign any cause, and eight had suffered from the disease from their youth. The treatment adopted, besides meeting any general indications, obtaining the best hygienic surroundings possible, and advising a strict vegetable diet with milk, was to give 20 grains of the bromide of strontium with 5 to 10 grains of the bromide of sodium or ammonium, night and morning, largely diluted with water. The strontium was increased to 1 drachm, twice a day, rapidly, when it was found that the smaller doses did not control the attacks, and where the patient did not complain of it. The majority of the patients took the strontium without any depression, but generally with the production of the acne rash upon the face. Liq. arsenicalis added to the mixture controlled the rash and increased the appetite. This course in all the cases materially lessened the attacks, and in eight of the cases there has been, so far, no return after an interval of 16, 12, 11, 9, 8, 8½, 5, and 4 months respectively.—*Medical Press and Circular*, August 12, 1896.

Calcium Treatment in Diabetes.—In 1894 a diabetic man, aged 25, was sent to Grube for treatment. The elder brother had died from the same disease.

The patient himself had already reached the stage when, in spite of strict dieting, the sugar continues to appear in the urine. He had begun to lose in weight and strength, and had attacks of gastric disturbance, associated with constipation and prostration, added to his troubles. In the beginning of 1895 a decided improvement took place in the general condition, which the patient himself attributed to the daily dose, for two months, of a full teaspoonful of powdered eggshell, a remedy which he had heard of from an Englishman, apparently a sufferer from the same malady. Grube substituted a powder made in imitation of eggshells, which in 100 parts contain 93 parts calcium carbonate, to $\frac{7}{10}$ of a part calcium phosphate and magnesium phosphate; 4 grammes of such powder were taken daily. Of Grube's 14 new cases, 11 were of the so-called "benign diabetes," and 3 of severe diabetes. In the 11 benign cases the treatment seems to have had no effect, either good or bad, whereas in the 3 severe cases a decided improvement in the general condition followed the treatment. The subjective symptoms were alleviated, and the body weight was increased, although the actual glycosuria was not lessened, and although acetonuria persisted in all three cases. Grube has noted improvement in many cases of diabetes, but never such an increase of weight as he obtained under the calcium treatment. He thinks that by this treatment there is hope that some cases of severe diabetes may be longer kept back from the cachectic stage of the disease. —*British Medical Journal*, June 20, 1896.

The Bicycle in Functional Derangements of the Liver.—DR. E. B. TURNER expresses the opinion that in whatever way functional derangement of the liver may show itself, bicycle exercise, as a remedy, surpasses even calomel. Most of the ailments which are commonly called "bilious" are caused by too much food of a rich nature, and too much drink of a sweet or alcoholic character, combined with too little exercise in the open air. The liver attempts to get rid of the superfluous material thrown into the circulation, and, being overworked, rebels, and gout, dyspepsia, rheumatism, gravel, headache, and constipation are the outward and visible signs of its inaction in those who live, too well, a sedentary life. The prescription of a bicycle, and the recommendation to use it wisely and well, works like a charm in such cases, and in all the sympathetic ailments which arise from too much acid in the system. It is interesting to note that cycling sometimes has the effect of thinning the obese and fattening the thin, and this may be partially explained by Murchison's observations, that excessive leanness, as well as excessive corpulence, is often caused by inaction of the liver, and the stimulus of regular exercise, setting the functions of that organ right, causes the disappearance of what was only a symptom. In derangements of the nervous system, the same writer states, that in cases of breakdown of the nervous system from overwork and anxiety, cycling will be found a most valuable adjunct to the rest which is necessary for recovery, and numerous brain workers now consider a daily ride indispensable, if their work is to remain at concert pitch. In the anemia of young girls, whether associated with constipation or not, steel, in the form of the wheel, is even more effectual than "drops," and the action of the flat muscles of the abdominal walls on the subjacent organs being increased by the movements necessary to retain the balance and drive the machine, has a marked effect as an adjunct to other treatment in cases of obstinate constipation.—*British Medical Journal*, July 4, 1896.

What Effect do Diet and Alcohol have upon the Causation and Course of the Eczematous Affections and Psoriasis?—DR. J. C. WHITE, of Boston, in opening a discussion on this subject, before the American Dermatological Society, said that little new in this line had been brought out at the recent Congress in London, the President of which had expressed his continued belief that leprosy was due to a certain article of diet. Some recent discussions have shown that observations of the past have been so inexact that no trustworthy conclusions can be drawn from them. The importance of the bearing of diet upon eczema has been shown to be greatly overestimated. It has also been denied that the existence of eczema proves the coëxistence of gout. Improper selection of food, its improper preparation, and the use of foods containing toxic properties are all harmful. In certain nomadic tribes the diet is largely animal; among certain religious sects it is almost exclusively vegetable; while it is only recently that certain inland people have had fish as a common article of diet. In spite of these opportunities, the therapeutic test has rarely been applied on an extensive scale. Articles of food which increase the cutaneous circulation or excite the nervous system and so exaggerate a pruritus, certainly have a bearing upon eczema. The diet in this disease should be the same as in all other inflammatory processes. As he does not recognize any connection between eczema and any so-called diathesis, he would deny the efficacy of systems of diet based upon the existence of such diathesis. He recognized both a direct and an indirect influence on the maintenance of the disease by alcohol, but did not regard it as an important factor in its causation. Personally, he believed that diet and alcohol had no influence on the causation and course of psoriasis in general, but in exceptional types they have a temporary importance. The successful treatment of these two diseases is still a matter of empirical experimentation.—*Medical Record*, October 3, 1896.

MATERIA MEDICA AND THERAPEUTICS.

By WM. WATT KERR, M.A., M.B., C.M., Professor of Clinical Medicine, University of California, San Francisco.

Bromide of Strontium in Epilepsy.—DR. V. ROCHE presents a second series of cases treated by this remedy. Eight of the patients were males and four females; the ages ranged from ten to fifty, in none was any family predisposition admitted, none could assign any cause, and eight had suffered from the disease from their youth. The treatment adopted, besides meeting any general indications, obtaining the best hygienic surroundings possible, and advising a strict vegetable diet with milk, was to give 20 grains of the bromide of strontium with 5 to 10 grains of the bromide of sodium or ammonium, night and morning, largely diluted with water. The strontium was increased to 1 drachm, twice a day, rapidly, when it was found that the smaller doses did not control the attacks, and where the patient did not complain of it. The majority of the patients took the strontium without any depression, but generally with the production of the acne rash upon the face. Liq. arsenicalis added to the mixture controlled the rash and increased the appetite. This course in all the cases materially lessened the attacks, and in eight of the cases there has been, so far, no return after an interval of 16, 12, 11, 9, 8, 8½, 5, and 4 months respectively.—*Medical Press and Circular*, August 12, 1896.

Calcium Treatment in Diabetes.—In 1894 a diabetic man, aged 25, was sent to Grube for treatment. The elder brother had died from the same disease.

The patient himself had already reached the stage when, in spite of strict dieting, the sugar continues to appear in the urine. He had begun to lose in weight and strength, and had attacks of gastric disturbance, associated with constipation and prostration, added to his troubles. In the beginning of 1895 a decided improvement took place in the general condition, which the patient himself attributed to the daily dose, for two months, of a full teaspoonful of powdered eggshell, a remedy which he had heard of from an Englishman, apparently a sufferer from the same malady. Grube substituted a powder made in imitation of eggshells, which in 100 parts contain 93 parts calcium carbonate, to $\frac{7}{10}$ of a part calcium phosphate and magnesium phosphate; 4 grammes of such powder were taken daily. Of Grube's 14 new cases, 11 were of the so-called "benign diabetes," and 3 of severe diabetes. In the 11 benign cases the treatment seems to have had no effect, either good or bad, whereas in the 3 severe cases a decided improvement in the general condition followed the treatment. The subjective symptoms were alleviated, and the body weight was increased, although the actual glycosuria was not lessened, and although acetonuria persisted in all three cases. Grube has noted improvement in many cases of diabetes, but never such an increase of weight as he obtained under the calcium treatment. He thinks that by this treatment there is hope that some cases of severe diabetes may be longer kept back from the cachectic stage of the disease. —*British Medical Journal*, June 20, 1896.

The Bicycle in Functional Derangements of the Liver.—DR. E. B. TURNER expresses the opinion that in whatever way functional derangement of the liver may show itself, bicycle exercise, as a remedy, surpasses even calomel. Most of the ailments which are commonly called "bilious" are caused by too much food of a rich nature, and too much drink of a sweet or alcoholic character, combined with too little exercise in the open air. The liver attempts to get rid of the superfluous material thrown into the circulation, and, being overworked, rebels, and gout, dyspepsia, rheumatism, gravel, headache, and constipation are the outward and visible signs of its inaction in those who live, too well, a sedentary life. The prescription of a bicycle, and the recommendation to use it wisely and well, works like a charm in such cases, and in all the sympathetic ailments which arise from too much acid in the system. It is interesting to note that cycling sometimes has the effect of thinning the obese and fattening the thin, and this may be partially explained by Murchison's observations, that excessive leanness, as well as excessive corpulence, is often caused by inaction of the liver, and the stimulus of regular exercise, setting the functions of that organ right, causes the disappearance of what was only a symptom. In derangements of the nervous system, the same writer states, that in cases of breakdown of the nervous system from overwork and anxiety, cycling will be found a most valuable adjunct to the rest which is necessary for recovery, and numerous brain workers now consider a daily ride indispensable, if their work is to remain at concert pitch. In the anemia of young girls, whether associated with constipation or not, steel, in the form of the wheel, is even more effectual than "drops," and the action of the flat muscles of the abdominal walls on the subjacent organs being increased by the movements necessary to retain the balance and drive the machine, has a marked effect as an adjunct to other treatment in cases of obstinate constipation.—*British Medical Journal*, July 4, 1896.

MEDICINE AND PATHOLOGY.

By Albert Abrams, M.D., Professor of Pathology, Cooper Medical College, San Francisco.

Enteroptosis.—In a paper before the New York State Medical Association, Dr. Einhorn made the somewhat remarkable statement, that among 92 female patients treated by him for digestive troubles, during the months of January and April last, no less than 32, or 34.8 per cent., were the subjects of ptosis of the stomach and intestines, with movable kidney. Out of 141 male patients treated during these two months for the same class of troubles, only 9, or 6.2 per cent., suffered from enteroptosis. He was disposed to regard tight lacing as the principal etiological factor in women and expressed the opinion that the wearing of corsets accounted for the difference in the proportion of cases in the two sexes.—*Boston Medical and Surgical Journal*, June 4, 1896.

The Climate of High Altitudes.—Dr. S. S. Wallian presents the following conclusions as the general effects of living in high altitudes: (1) Increased breathing capacity. This result is partly mechanical, or mechanico-physiological, and is brought about by the necessity for inspiring an increased volume of air in order to secure the necessary oxygen. That is to say, the changed atmospheric tension calls for anatomical and physiological adaptation—augmentation of the number (?) and capacity of the pulmonary air cells, and thoracic expansion. (2) Acceleration of the respiratory functions causes a corresponding movement in the circulatory apparatus, and gives a new impetus to all the vital functions. The more frequent and vigorous movement of the diaphragm reacts upon the digestive system, promotes more rapid absorption and assimilation of nutrient material, and at the same time hastens all the stages of both constructive and destructive metamorphosis, including elimination. While this may be called the secondary, it is by no means the less important effect. (3) The atmosphere of elevated regions is less permeated with both harmless and hurtful germs. (4) It is claimed (Solly) that among the peculiar effects of high climates are an increase in the number of red corpuscles, an increased amount or proportion of hemoglobin, and an increase in the absorption capacity of the blood. These results indicate that altitude may be invoked in all diseased conditions which involve deficient hematopoiesis, and in a lowered condition of the assimilative and depurative functions.—*American Therapist*, April 15, 1896.

MENTAL DISEASES AND MEDICAL JURISPRUDENCE.

By A. W. Hoisholt, M.D., Assistant Physician, State Asylum for Insane,
Stockton, Cal.

Flechsig's Treatment of Epilepsy.—Dr. Antonio Nearro reported last November his success with Flechsig's method in 10 cases of epilepsy. The first case was an imbecile boy, 17 years old, who had had four and five attacks daily, in which bromides had had no effect. Opium was administered for 24 days, then stopped on account of a violent diarrhea, and bromide administered (January 24, 1895). From this time until the end of July, 1895, no further attacks occurred. His congenital mental condition is, of course, unaffected, but the stupor is perhaps less pronounced than before. In the second case, a young man of 22, there was a history of epilepsy for two years; the attacks being ascribed to masturbation and alcoholism. He had been suicidal, and had had violent attacks followed by delirium. On January 11, 1895, the opium treatment was begun and continued 38 days, after which (February 18th), bromides were given. He was discharged from the hospital April 16, 1895, without having had any attacks during this time. The bromide treatment was continued. Some days after his discharge excessive indulgence in liquor brought on a light attack, otherwise he has been able to attend to his work as a gardener with regularity. The third case was a man of medium intelligence, 28 years of age, who had been an epileptic for five years; the attacks having been ascribed to fright from danger of drowning. The attacks were general, occurring at irregular intervals, followed sometimes by attacks of mania, lasting days. Opium was given on January 20, 1895, and the doses gradually increased to 50 centigrammes. On March 9, 1895, the bromides were substituted, and no further attacks noted. In the fourth case, a young man of 22, the attacks were followed by periods of stupidity and depression. On February 9, 1895, opium was administered, and on the twelfth day bromides. From then until the end of July he did not suffer any attacks. The fifth case, a man of 27 years, had an epileptic history of ten years duration. The first attack was said to have followed a fright, consecutive to being drawn under water twice by a mill wheel. He had attempted suicide several times. Bromide treatment had only been partly successful. On March 18th the opium treatment was begun and continued until May 2d. The attacks occurred very often during the treatment, without, however, the consequent stupor. The bromides were again administered, and to the end of July all attacks had ceased. The sixth case, a man aged 27, had been an epileptic since infancy. The attacks became very severe after the patient had contracted the habit of drinking to excess. Just before he was admitted to the hospital he attacked an individual on the street, while in a state of post-epileptic mania. The opium was administered from March 23d to May 4th; after that bromides. He had two attacks, not followed, however, by delirium; is quiet and busy, but depressed at times. The seventh case was also a case of epilepsy from infancy in a man 29 years of age. He had been trephined in another hospital, but without success. The attacks had occurred every few days, followed by stupor. On May 13th the opium was begun, and on June 21st the bromides. Since then the attacks have not been followed by stupor. The remaining three cases were undergoing the bromide treatment, which is made to precede the beginning of the opium treatment, at the time this report was made out.—*Society Journal of R. Accademia de Medicina di Torino—Journal Nervous and Mental Disease*, May, 1896.

The Breaking Strain of the Ribs of the Insane.—DR. ALFRED W. CAMPBELL, pathologist at the County Asylum, Rainhill, Lancashire, England, has recently published a paper setting forth the results of his studies on this subject. He made tests in 57 autopsies by means of Dr. Chas. Mercier's apparatus, and also made microscopical studies of sections of ribs, showing clearly the loss of or reticulation of the compact tissues to be the main cause. He found the breaking strain of the ribs in general paralytics to be below the normal, in the proportion of 62 pounds to 44.8 pounds. Of senile insanity in females 11.8 lbs. represented the strain, the ribs of females, sustaining but about one-half the normal strain found in men. The average breaking strain in males in other insanities was about 41.04 lbs.; in females 20.68 lbs. He found a constant difference between the breaking strain of the convexity and the concavity of the ribs, and it diminishes from the age of 35 towards senility. The greatest reduction of breaking strain was found at the end of degenerative psychoses. —*Journal Mental Science—Journal Nervous and Mental Disease.*

Thyroid Extracts in Mental Disease.—DR. WARREN L. BABCOCK has experimented with desiccated thyroids at the St. Lawrence State Hospital.

The object of his experiments was, first, to definitely ascertain the physiological action of thyroid; second, to determine in what classes of cases it might be used to further recovery; third, to apply it therapeutically to those cases in which it offers the best results. He found that true thyroid preparations have no relationship with the so-called animal extracts, that it is possible by proper preparation to obtain a substance of an unvarying strength, and that thyroid extract has a definite physiological action. The desiccated extract was given in doses of 5 grains, which were judiciously increased, 15 grains being apparently the maximum dose that could be given with safety for any length of time, and then only in patients whose physical health was impaired in a slight degree, if at all. The physiological action of the drug consists in an increase in the number of red blood-cells and in the percentage of hemoglobin, in an acceleration of the pulse—the respirations were not especially influenced, in an elevation of the temperature in the majority of cases of from one to three degrees, and in an increase in the majority of cases of the arterial tension. Precordial oppression occurred in a few cases, and a flaccidity, tremor and general weakness of the muscles characterized many of them. At first there was an apparent sense of fatigue with great mental oppression, followed by a gradual clearing up of the cerebral processes and improved mental coördination. The reflexes, in the majority of cases, were increased from an early period of the treatment, The sensibility returned to normal, or was very much improved in 9 cases presenting more or less anesthesia. Two cases became hyperesthetic. Diuresis was well marked, while perspiration was decreased; the products of retrograde metamorphosis were eliminated to a greater extent. Gastric symptoms and urticariform eruption, accompanied by severe itching followed by desquamation were observed in a few cases. Thyroid holds out a prospect of recovery or improvement; first, in cases of post-melancholic hebetude following a lengthy period of depression; second, in cases of stuporous melancholia of long duration; third, in maniacal cases, whose attacks have been unduly prolonged; fourth, in cases of cerebral exhaustion following acute delirium or stupor, in which the elimination of urea and other nitrogenous compounds is greatly reduced; fifth, in chronic disturbed cases. Thyroid extract may also assist in differentiating between true stupor and dementia in doubtful cases, and in delusional cases it may show whether the delusions are fixed or temporary.—*State Hospitals Bulletin—International Medical Magazine*, May, 1896.

FORMULÆ.

By H. E. SANDERSON, Ph.B., M.D., Assistant Physician State Asylum for Insane, Stockton, Cal.

Itching.—DR. T. D. SAVILL says: Calcium chloride, in doses of 20 to 40 grains, in a wineglass of water, after meals, acts remarkably in itching, whether purely nervous or accompanying eruptions.—*Lancet.*

Small Varicose Ulcers.—Tincture of aloes, locally applied, and covered with gutta percha and wadding, is said to be very successful. Change the dressing in four days.—*Centralbl. f. di gesammte Therapie.*

Pertussis.—JOIRE, of Lille, uses ol. fennel, 6 to 10 drops, morning and evening. He also wraps the patient in sheets soaked with warm decoction of fennel seed 1½ hours daily.—*Therapeutic Review.*

Acute Pharyngitis:

Fld. ext. hydrastis.
Fld. ext. rhus glabrae āā ʒ ii
Potassii chlorat. ---------- gr. x
Aq. ------------- *q. s., ad* ℥ i

Sig.: Gargle.—*Medical Age.*

Insect Stings and Bites:

Acetic ether	5 parts.
Eucalyptol.	
Eau de Cologne, of each	10 parts.
Tincture of pyrethrum	50 parts.

Dilute with four times its bulk of water and apply as a lotion.—*Practitioner.*

Dipsomania.—Hyoscine hydrobromate, $\frac{1}{100}$ to $\frac{1}{80}$ of a grain, hypodermically, relieves the craving for drink, as well as quiets.—*Charlotte Medical Journal.*

Toothache and Painlessness in Extraction of Teeth:

Cocain hydrochlorat.	15 parts
Essence cherry laurel.	15 parts
Tinct. of arnica	150 parts
Sol. of ammonium acetate	300 parts

This is said to be very efficacious.—*New York State Medical Reporter.*

Palatable Quinine.—Place the quinine between layers of scraped apple in a tablespoon. Cognac, and lemon juice also disguise its taste.—*Pharmaceut. Zeitung.*

PUBLIC HEALTH.

By W. R. Cluness, M.A., M.D., San Francisco, Cal.

Mortality for September, 1896.—The deaths registered in 46 town districts of the State, during the month of September, in a population of 728,714, correspond to an annual rate of 14.16 a thousand, the total mortality having been 865. 81 deaths were due to zymotic diseases, giving an annual rate of 1.32 a thousand. Of these, 3 were due to diphtheria, 24 to cholera infantum, 21 to typhoid fever, 9 to diarrhea and dysentery, 11 to cerebro-spinal fever, 3 to whooping cough, 1 to croup, 7 to intermittent and remittent fevers, 0 to scarlet fever, 1 to measles, and 0 to small-pox. 224 deaths resulted from diseases of the respiratory organs, giving an annual rate of 3.68 a thousand. Of these, 156 were due to consumption, 43 to pneumonia, 22 to bronchitis, and 3 to pulmonary congestion; the rate being, for consumption and pneumonia, 2.55 and 0.69, respectively. 89 deaths resulted from diseases of the heart, 3 from alcoholism, 1 from erysipelas, 33 from cancer, and 369 from causes not given. The average annual death rate from all causes occurring in the ten largest cities and towns in the State, and representing a population of 618,000, was 14.04. The highest rate for the month occurring in cities having a population of 10,000 or more inhabitants, was reported from San Francisco, the lowest from San Diego.

METEOROLOGY.

Summary for September, 1896—*Temperature.*—The normal temperature of the State for September is 69.8°; the average for September, 1896, was 67.9°, a departure from the normal of −1.9°. The highest monthly mean was 92.4°, at Volcano Springs; the lowest, 46°, at Bodie. The maximum temperature was 119°, at Volcano Springs, on the 15th. The minimum, 18°, at Bodie, on the 19th. The absolute range for the State was 100°. The greatest monthly range was 70°, at Greenville; the least, 19°, at Point Lobos.

Rainfall.—The normal precipitation for the State for September is 0.21 inches; the average for September, 1896, was 0.37 inches, a departure from the normal of +0.16 inches. The greatest monthly precipitation was 2.29 inches, at La Porte; the least, nothing, at 35 per cent. of the stations reporting.

Wind.—The prevailing direction of wind was west.

Unusual Features.—The unusual meteorological feature of the month was snow: 12 inches at Bodie, on the 18th; 0.5 inches at Bowman's Dam, on the 19th; and 4 inches at Summit, on the 18th.—James A. Barwick, Director California Weather Service.

California—Tabular Statement for September, 1896.

STATIONS.	TEMPERATURE.						RAINFALL.		Mean Relative Humidity	WEATHER.			WIND.	FURNISHED BY—
	Mean	Highest	Lowest	Mean Highest	Mean Lowest	Mean Daily Range	No of Days Rain Fell	Total Rainfall		No. of Clear Days	No. of Fair Days	No. of Cloudy Days	Prevailing Direction.	
Auburn.........Cal.	68.0	92	55	------	------	------	----	0.90	------	----	----	----	N.W.	Southern Pacific Company.
Berkeley......... "	58.0	78	51	68	55	13	2	0.76	90	6	7	17	--------	Obs. University of California.
Colfax........... "	66.0	95	47	------	------	------	----	1.64	------	----	----	----	S.W.	Southern Pacific Company.
Coronado....... "	70.0	88	56	77	63	14	0	T	------	27	1	2	N.W.	Hotel del Coronado.
Eureka.......... "	56.0	68	43	62	49	13	4	1.60	------	6	17	7	N.W.	Weather Bureau Dept. Agr.
Fresno.......... "	73.0	101	50	88	57	31	1	0.06	25	25	4	1	N.W.	" " "
Keeler........... "	------	------	------	------	------	------	----	------	------	----	----	----	--------	" " "
Los Angeles.... "	68.0	92	50	79	56	23	0	T	76	8	22	0	W.	" " "
Monterey....... "	62.0	77	52	------	------	------	----	0.27	------	----	----	----	W.	Southern Pacific Company.
Napa............ "	63.0	96	44	80	53	25	3	0.50	76	7	18	5	S.W.	Station Napa Insane Asylum.
Oakland......... "	58.0	79	49	68	53	15	3	0.82	85	14	12	4	W.	Chabot Observatory.
Paso Robles.... "	69.0	92	47	------	------	------	----	0.00	------	----	----	----	W.	Agr. Experimental Station.
Red Bluff....... "	73.0	100	51	85	60	25	4	0.63	43	22	4	4	N.W.	Weather Bureau Dept. Agr.
Sacramento. ... "	68.0	94	47	81	55	26	3	0.31	64	21	7	2	S.W.	" " "
San Bernardino "	70.0	101	44	88	53	35	0	0.00	------	18	11	1	W.	A. K. Johnson, M. D
San Diego....... "	67.0	80	54	73	60	13	0	T	78	27	1	2	N.W.	Weather Bureau Dept. Agr.
San Francisco.. "	60.0	81	52	65	54	11	5	0.52	84	14	11	5	W.	" " "
Santa Barbara.. "	65.0	84	51	73	56	17	0	0.00	70	22	7	1	W.	Hugh D. Vail.
Santa Cruz...... "	61.0	88	42	73	50	23	2	0.35	------	12	5	13	W.	W. R. Springer.
Yuma..........A. T.	84.0	108	55	99	69	30	2	0.31	48	26	4	0	S.W.	Weather Bureau Dept. Agr.

Blank (----) indicates data missing.

Occidental Medical Times.

COMMUNICATIONS are invited from all parts of the world. When necessary to elucidate the text, illustrations will be furnished without cost to the author.

SACRAMENTO: NOVEMBER, 1896.

CALIFORNIA NORTHERN DISTRICT MEDICAL SOCIETY.

The sixth annual meeting of this prosperous Society was held in Marysville, on Tuesday, October 13. The attendance was large and the representation very general. This augurs well for the future of the Society, for while the larger towns can always furnish a fair contingent to a meeting it is the attendance of those from a distance that really tells what the Society is doing for the profession. There has also been a very healthy growth, and the losses from resignations or suspensions have been few. The death of DR. W. R. CLEAVELAND, of Oroville, one of the earlier Presidents of the Society, that occurred shortly before the meeting, has removed one of its staunchest supporters, and one who always felt most kindly disposed in all matters of medical organization.

The papers presented on this occasion were less numerous than usual, but of fairly average quality. The President's address, which appears elsewhere in this issue, is a very valuable contribution to a subject that should engage the attention of the profession. Our laws on this, as on other more strictly medical matters, are susceptible of vast improvement. The work of reform in connection with the lunacy laws is doubly hard, as many persons are continually haunted with the fear that people are "railroaded" to the asylums, and that unfortunates are even detained there, though perfectly sane. Medical men know that these statements are gross exaggerations and untruths, but they are current beliefs, and it will require a campaign of education before they can be upset.

The Society has honored DR. JOHN FIFE, of Red Bluff, by electing him as its presiding officer for the ensuing year. The selection was a wise one, and a deserving tribute to the very warm welcome accorded at Red Bluff last March. The pretty town of Auburn has been chosen as the place for the spring meeting. Auburn for several years has been steadily acquiring a reputation as a health resort, representing an easily accessible point in the foothill belt, and the visitors will now have the opportunity of estimating its merits. The banquet tendered by the Medical Society of Yuba and Sutter counties was a very pleasant affair. It was, perhaps, most remarkable, in being very unlike medical banquets in general. If this marks a new departure it is certainly a very desirable one, and long may the new condition of things continue.

College of Physicians and Surgeons of San Francisco.

On account of necessary alterations in the College building, the Trustees announce that the course of instruction now in progress will be considered a preliminary course, and will terminate on December 19th next; also, that the first regular course will begin on January 4, 1897, and will continue for 26 weeks thereafter, concluding on July 3, 1897.

Charlotte Medical Journal.

The *Charlotte Medical Journal* has recently increased the size of its pages and adopted the double column style, thereby greatly increasing the amount of reading matter furnished each month. The *Journal* is issued from its own office, and owns a complete plant that is used for this purpose exclusively. All these are solid evidences of prosperity, which the energetic management of our contemporary heartily deserves.

The American Laryngological, Rhinological, and Otological Society.

The meeting of the Southern Section of the American Laryngological, Rhinological, and Otological Society will be held in New Orleans, March 3 and 4, 1897. This date has been selected, as it will permit visiting members to see New Orleans during the carnival season, and will enable them to secure half-rate railroad transportation. Candidates for membership should send their names, properly endorsed, to Dr. Robert C. Myles, Secretary, 46 West Thirty-eighth street, New York, or to Dr. W. Scheppegrell, Medical Building, New Orleans.

Mathews' Medical Quarterly.

The editors of *Mathews' Medical Quarterly* announce that with the January issue of that publication its name will be changed to *Mathews' Quarterly Journal of Rectal and Gastro-Intestinal Diseases*. There will be no change in the policy of the journal. As it will continue to be the only English publication devoted to diseases and surgery of the rectum and gastro-intestinal tract, the articles which will appear in it will be limited to these subjects. The *Journal* will continue to be edited by Drs. J. M. Mathews and Henry E. Tuley, and published in Louisville, Ky.

Pan-American Medical Congress.

Information from the Committee on Transportation of the Congress was received at too late a date to be of much service to physicians who propose to attend the Congress from the Pacific coast. The following items may, however, be useful to the belated, and we shall be glad to furnish literature giving further details to any applicant. Physicians residing in Southern Pacific territory have been accorded a rate of one fare for the trip to the city of Mexico and return. The three Mexican lines have made the same rate. The Committee on Transportation has arranged with the American Tourist Association for a special train to be known as the Official Train. This will be under the personal management of Mr. Reau Campbell, General Manager of the Association, and will leave Chicago November 10. Physicians from the Pacific coast can join this train at San Antonio. The cost for transportation on this train from San Antonio to Mexico and return will be $110, in addition to the railroad fare already paid. This amount covers sleeping car fare, meals in dining car, meals at hotels while in the city of Mexico, street cars at all stopping places, the steamboat on the Panuco river at Tampico, and all possible expenses while *en route*. Passengers can live on the train, if they desire, when in the city of Mexico. Accommodations can be secured by wiring Mr. Campbell, 925 Old Colony Building, Chicago.

Dr. John B. Hamilton and the Journal of the Association.

During the past few weeks the newspapers and the medical journals have contained a number of items to the effect that Dr. John B. Hamilton, of Chicago, the editor of the *Journal of the American Medical Association*, who was also a surgeon in the Marine Hospital Service, had been ordered to San Francisco for duty. It was also stated that every effort made to rescind the order had proved futile, and that Dr. Hamilton had the alternative of giving up the service or the *Journal*. Under the circumstances he chose the former, and he is no longer a member of the service, as his resignation has been accepted by the President. The facts of the case appear to be as follows: When Dr. Hamilton, at that time Surgeon-General of the Marine Hospital Service, resigned his position to go to Chicago, it was agreed and understood by the Department that he should stay in that city for at least two terms of four years each. In the face of indisputable evidence of this understanding, Dr. Hamilton was ordered to San Francisco. Unless the regulations of the service upon the subject of rotation in duty are especially strict, and unless the station at Chicago was not being officered in an efficient manner by Dr. Hamilton, it seems strange that some allowance could not have been made for one who was doing a double work for the profession and doing it effectively. The *Journal*, under the management of Dr. Hamilton, has shown a very decided improvement, and there is now some promise that it will attain the place it was designed to fill as the representative organ of the whole profession.

"Something New."

The following under this caption is certainly "new;" in fact, it is so decidedly original that we have presented it in *fac simile:*

Are You Sick?

Are Any of Your Friends?

If so, here is something that may interest you. We have added a FREE DISPENSATORY to our store and propose giving our customers the benefit of it.

Costs You Nothing.

Heretofore it has been customary for those in need of medical attendance to hunt up a physician, pay him a fee and take the prescription obtained to the doctor's favorite druggist, where another fee was exacted, making a cost to the patient of from $3.50 to $7.50. While these charges were excessive, still people paid them until, as times became harder, they, not having the necessary money, naturally turned to the numerous patent cure-alls, with which the market is flooded, in hopes of relief, or became the prey of the fakirs and frauds that now infest the medical and drug professions.

Management of Dispensatory.

The Dispensatory will be in charge of an able and experienced physician, who has practiced medicine for 30 years. You can call or write and obtain his advice without cost. The only charge being for the medicine furnished.

Out-of-Town Patients.

If you live at a distance and are unable to call, write plainly your name and post-office address. Next give your age, sex, whether married or single, present and former weight, if known, and occupation. How long you have been out of health and from what symptoms you suffer most. Follow this with a history of your case in your own language.

ADDRESS . . .
CALIFORNIA PHARMACY,
Oroville, Cal.

This has been issued as a circular, and has been freely distributed in the locality tributory to the "Dispensatory." It is generally believed that enterprising methods of this character are confined to the cities, but in this assumption the fertility of the northern citrus belt and its reputation for early, not to say "recent," products have not been considered. According to the terms of the document the "able and experienced physician" of 30 years' standing must be living on philantrophy, unless possibly he is helped out by his "favorite druggist."

Traffic in Inebriety.

We are in receipt of a circular issued by the so-called "Sacramento Gold Cure," which is decidedly business-like if not strictly ethical. We do not expect anything specially ethical to emenate from these institutions, but it would seem better policy to make offensiveness less notorious. This circular is addressed "To the Medical Profession," and the "plan" outlined therein is as follows: "We wish to secure the active coöperation of the most prominent physician in every community, who will send us the names and addresses of every inebriate with whom he is acquainted; also the names and addresses of friends of each inebriate who would be likely to assist him to pay for a course of sanatorium treatment. For each case treated at our sanatorium, whose name was sent in by a physician, we will remit to that physician $20 on the day our fee is received from that patient." A second circular, also addressed to the profession, states, amongst other things, that the "institution" will be conducted hereafter on the same plan as the Walnut Lodge Hospital, of Hartford, Conn. This place is conducted by Dr. T. D. Crothers, a member of the American Medical Association, and well known to the profession; and he will no doubt feel flattered at this use of his name. The foregoing, with other matters contained in these circulars, does not look as if the efforts of the proprietors were going to elevate the institution to a much higher plane than that which it has so far occupied. It is certainly to be regretted that the President of the State Board of Health should allow his name to appear as the only physician endorsing the institution, especially in such a connection.

Drunk or Dying.

During the month of October two deaths were reported from San Francisco of persons who were arrested as being drunk. In one case a woman was brought to the Receiving Hospital in a deeply intoxicated condition, and was treated for some slight injury. She was then ordered taken to the City Prison by the surgeon in charge, and in a few hours was discovered dead. The *post-mortem* examination showed alcoholism as the cause of death. The other case was that of a man arrested for being intoxicated, and taken directly to the prison, but dying shortly after. We have frequently called attention to the necessity of placing all deeply intoxicated persons under medical observation. They are suffering from acute poisoning, and the alcoholic symptoms, if not in themselves serious, may conceal some more serious condition. Unexpected deaths occur quite frequently among the intoxicated from causes overlooked by the attending surgeon. To guard against these unfortunate occurrences special provisions should be made in all public institutions which receive intoxicated and injured persons. A few months ago the Medical Society of the county of Kings, Brooklyn, N. Y., issued a circular on the care and disposition of persons found in an unconscious condition on the streets or elsewhere. The object of the communication was to draw attention to the necessity of providing systematic means of treating this class of patients. Evidently the lesson contained in this circular has not reached the San Francisco Receiving Hospital. The intoxicated and the unconscious are the most important cases that an emergency hospital has to deal with, and such an institution should be able to show by its record that it appreciates this fact. The subject is worthy of direct action by the local Board of Health, which should call attention, especially of the police department, to the difficulties surrounding diagnosis in these cases, and the necessity of the greatest care in their treatment. All cases showing deep intoxication should be under medical treatment until sober, when, if necessary, they can be handed over to the police.

SOCIETY PROCEEDINGS.

SACRAMENTO SOCIETY FOR MEDICAL IMPROVEMENT.

Regular Meeting, September 29, 1896.

The President, F. B. Sutliff, M.D., in the Chair.

New Member.—C. L. Browning, M.D., was duly elected a member of the Society.

Good Roads.—A communication from the Sacramento County Good Roads League, requesting the coöperation of the Society, was read. On motion The President, Dr. W. J. Hanna, and The Secretary were appointed as a committee to coöperate on behalf of the Society.

A Case of Empyema with Subsequent Multiple Abscesses of the Brain.—Dr. W. J. Hanna reported the following case: W. S——, aged 11 years. Parents healthy, mother having had six children. No tuberculosis in the family. Patient gave a history of having been confined to his bed 8 months previous to January 15, 1896, when he was seen by Dr. Huntington and a diagnosis of empyema of the right chest cavity made. The following day I was invited to assist at the operation, and subsequently had charge of the case. An incision was made on the right side a little in front of the inferior angle of the scapula, and a segment of both the eighth and ninth ribs removed. The pleural cavity was opened and a large quantity of fetid pus evacuated. The abscess cavity was washed out with a dilute creolin solution, a piece of iodoform gauze placed in the wound to serve as a drain, and the usual antiseptic dressing applied. The following day the gauze packing was removed and the abscess cavity irrigated; owing to the distress caused by the irrigation, it was only used every other day, a fresh piece of gauze being placed in the wound each time. The patient's condition from the first began to improve and at the end of three weeks he was able to walk from his bed to the kitchen. He began to take on flesh and his cough and expectoration, which was very profuse at the start, almost ceased. The patient was able to come to the office twice each week to be dressed, during the months of March and April, the mother always reporting that he felt fine and wanted to go to school. April 29th I was hastily summoned and found the child in a comatose condition, pupils dilated, and all the symptoms of cerebral meningitis being present. Drs. Huntington and Power saw the case the next day, and the following day he died. An autopsy showed the brain to be greatly congested, there being quite an amount of pus present. The left lung was found to be in good condition. The right lung, with the exception of where the adhesions had formed about the abscess cavity, seemed to be in good condition. The macroscopical appearance of the kidneys was normal.

Pathological Report.—By DR. H. D'A. POWER.—This case, whose clinical history has been related by Dr. Hanna, was seen by me on the day of its fatal termination, and was especially interesting in that it presented all the characters of a case of tubercular meningitis running an unusual and quite unaccountably short course. On the following day I made the autopsy, with the following results: The organs of the body presented nothing of interest, they were normal with the exception of the pleura and the adjacent lung. The former was thickened over a large area and below bounded a contracting pus cavity, the adjacent lung exhibited cirrhotic change. On opening the calvarium the brain was found to be tumid and the vessels of the pia engorged, a quantity of turbid fluid escaped. Examination of the base did not reveal adhesions or the presence of tubercles. The brain was removed and placed in a 5 per cent. formaldehyde solution, and examined some weeks later. On section the whole of the large region supplied by the middle cerebral artery was observed to be seeded with minute abscesses, ranging from scarcely visible points to the size of a bean. Some were in the white, a few in the grey, but the majority at the junction of the grey and white matter. Examination with the microscope revealed the usual mixture of broken down nerve elements and streptococci. Multiple cerebral abscesses are not very common, they are probably always embolic, and are usually associated with purulent disease of the lung. The present case was clearly due to such embolic infection. Apart from its pathology the chief interest of the case centers in the close resemblance its symptoms bore to those of meningitis.

Acute and Inflammatory Flat Foot.—DR. F. GUNDRUM reported two cases of this affection. *Case I.*—M. S——, age 26; German; weight 150 pounds; fairly muscular, and in good general health; occupation electric lamp trimmer. This necessitated him being on his feet all day in walking or in climbing a stepladder. At first he trimmed 70 lamps per day. As he could increase his earnings, if he increased the number of lamps, he gradually brought his daily task up to 127. He then began to have severe pain in his knees, legs, and feet. When he lay down he was at ease, but when walking he suffered more or less severely. His general health was not affected, and his knees, legs, and feet did not swell nor look differently than usual. He gave up his occupation, and he kept off his feet as much as possible. He supposed he had rheumatism and applied remedies accordingly, but after three weeks he sought medical aid. As he walks his body is somewhat flexed on the thighs. The leg does not come into full extension, the feet are much everted. The effort to have as little motion in the feet gives the gait a peculiar hitch, like that of a tethered horse. The arch of the foot was seen to have nearly disappeared; the foot was distinctly pronated, and that portion anterior to the medio-tarsal joint was diverted outward. When standing, almost the whole plantar surface touched the floor, which was plainly shown by taking an impression. Firm pressure in the popliteal space over the extreme upper portion of the gastrocnemius muscle caused him to cry out with pain. The muscles of the calves were tender on pressure. The feet were cold and clammy. The plantar tissues seemed soft and relaxed, and could be picked up by the thumb and fingers and resumed their shape slowly. Several painful spots were elicited on firm pressure, the most painful being at the junction of the astragalus and scaphoid. When an even support was placed under the arch and the front part of the foot pressed down there was no discomfort, but when this was reversed, or the foot was twisted upon its axis, intense pain was produced. The treatment pursued was massage and electricity, both galvanic and faradic. Locally, a pad of cotton wool was used under each arch, the shoe being laced tightly over it. This support gave immediate relief, and by changing the pads daily all pain soon disappeared from the limbs. Subsequently a well-fitting pair of shoes with pad were made under my instructions, and with these patient was able to return to work, though not at his former occupation. At this date he feels entirely restored. *Case II.*—M. J——, teamster by occupation, for the past few months has been employed on a grocer's delivery wagon. Through this change of occupation he has been on his feet all day, and he has been accustomed to jump out of the wagon at the houses. About June 15, 1896, he contracted a severe cold, and on the following day was stiff all over with aching in his back and legs and severe pain in his feet. The feet swelled considerably, and the "lodge doctor," who was called in, made a diagnosis of rheumatism. He was confined to bed for several days when he began to improve, but the feet continued swollen and painful. He was unable to walk, and got around on his hands and knees. At the end of four weeks he was able to hobble to the store where he was employed. His feet still swelled during the day, the swelling subsiding during the night. He then went to the springs for five weeks, but while his general heath improved his rheumatism still remained. He returned home and placed himself under the speaker's care. The arches of both feet were found to be obliterated, the left still being swollen, both feet were hyperpronated. There was much tenderness on the plantar surface. It was necessary to break up a number of adhesions before the feet could be brought into normal position. Cotton pads were placed under the arches and at once relieved the painful symptoms. Treatment by manipulation, massage, electricity, both to the legs and to the soles of the feet was then commenced, and was supplemented by a gradual building up of the arches by means of increasing the size of the pads. At the end of a week a properly fitting pair of shoes was made, and at the end of three weeks patient could walk most of the day without much inconvenience. He is steadily improving, but is still under treatment.

Injury to the Vagina by Impalement on a Picket Fence.—THE PRESIDENT, DR. F. B. SUTLIFF, reported this case: I was called, about a month ago, to attend a patient who was injured, the messenger said very badly, and found that the case was such a peculiar one, that I thought it worth while to make a short report of it to the Society. A young woman, about 16 years of age, had fallen out of a window, and astride a picket fence. She was engaged in fixing something about one of the curtains of the sitting room, and in order to reach the upper part of the window had placed a high chair on the surface of a spring lounge. While reaching upward, the chair had tilted, and she had been thrown out of the window and astride the line fence about three feet below the window sill, and two feet outward from the window. The pickets of which the fence was built were the flat sharpened sort, and one of them had entered so squarely in the vagina that there was no wound to be seen at all. The picket was red with dried blood, there was a little pool of blood or bloody spot on the ground, and an ecchymosed spot in one groin. I inserted my finger into the vagina, and found that the bladder had not been wounded, nor was the womb seemingly injured in the least. The vagina seemed very roomy, no trace of a hymen, and the floor of the vagina, without being torn, was denuded of mucous membrane. I washed it out with a solution of boracic acid, and found that the left side was cut to some little extent, and that the wound, made by a corner of the picket, involved the labia minora on the right side, though to no very great extent. She complained of pain in the region of the stomach, and was given an anodyne to ease her, and kept quiet. In two or three days all pain had passed away, and save for a slough of the mucous membrane of the floor of the vagina, she looked as well as before the accident. She has completely recovered from the effects of the injury. That she escaped with injuries so slight is due to the form of the picket on which she fell. Had it been square and straight, so that the bony parts would have offered no resistance, they would have, no doubt, been far greater.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular Meeting, September 8, 1896.

The President, WM. FITCH CHENEY, M.D., in the Chair.

New Member.—D. E. F. EASTON, M.D., was duly elected a member of the Society.

Cholecyst-Duodenostomy by the Murphy Button.—DR. J. H. BARBAT read a paper upon this subject. He said: Obstructions in the cystic, hepatic or common ducts are due to: (1) Obstruction from within. (2) Obstruction from the walls. (3) Obstruction outside the passages. Obstruction from within was usually mechanical and due to biliary colic, rarely, from worms or seeds passing in from the duodenum. Obstruction produced by pathological conditions of the walls was frequent, the most common variety being due to catarrh of the mucous membrane lining the duct; obstruction from the outside was usually due to malignant diseases. The following case was evidently of the second class, due to recurrent catarrhal attacks, which had been diagnosed as biliary colic by several eminent men in Europe. The patient, Mrs. H—, aged 40 years, had enjoyed good health until six years ago, when she suffered from an attack of *la grippe*. This was accompanied by a severe pain in the epigastric region radiating toward the right side of the back. She became jaundiced and had some fever for four or five days and then rapidly recovered her usual health. In four weeks she had another attack of pain, less severe than the first. From that time until May, 1895, she had similar attacks of pain accompanied by jaundice and fever every two or three weeks. She then went to Europe and to Carlsbad, where she drank freely of the waters, having only one attack from May until October of that year. On returning to America she had several attacks, at longer intervals, until the last, which occurred in August. On the 5th of that month I was called and found the patient complaining of intense pain in the epigastric region, radiating toward the back and right side. She was jaundiced, temperature 101° F., urine loaded with bile, passages clay-colored and offensive, liver enlarged, gall-bladder distended and tender and extending down below the umbilicus. Morphine, hypodermically, relieved her temporarily Though on hearing her history I advised an operation, as she had always recovered from her attacks in a few days, she looked for the same result on this occasion. She, however, grew steadily worse, and after a few days asked for an operation. On August 10th, with the assistance of Drs. Carpenter, Eram, H. D. Robertson and Dr. Frick, U. S. A., I operated. The incision was begun at the lower border of the ribs over the semilunar line on the right side and extended downward on this line as low as the umbilicus. The thickness of the abdominal wall necessitated a long incision. The gall-bladder presented in the wound, looking as large as a distended urinary bladder, which it also resembled in color. An aspirating needle was inserted and about one pint of mucus and thick grumous material removed. The female portion of a No. 1 Murphy button was inserted and held in place while the male half was placed in the duodenum. Owing to the large amount of fat investing the intestines it was difficult to differentiate the various structures, and the duodenum had not the appearance usually presented by that viscus. The two portions of the button were then brought together and the line of junction covered by a piece of omentum held in place by fine cat-gut sutures. Great difficulty was experienced in closing the abdominal wound on account of the tension of the walls and the apparent lack of room for the contents. It was impossible to suture the peritoneum separately, so the muscles were also included. The fascia and the skin and fat were sutured separately. Immediately on recovering from the anesthetic—chloroform—she became very restless, complaining of thirst, which was relieved by enemas of normal salt solution. On the third day she developed an acute double parotitis, which was at first alarming, but it slowly subsided without suppuration. The temperature never rose above 100° F., and this I attributed to the parotid inflammation. On the tenth day the wound was dressed and appeared in perfect condition, except for the lower stitch, which on removal allowed a small quantity of pus to escape. The infection was probably due to the silk used in fastening the middle portion of the button and the duodenum coming in contact with the lower angle of the wound. The opening closed rapidly and caused no further trouble. The button was passed on the evening of the 22d, twelve days after the operation. The bowels moved the day following the operation, the stool containing large quantities of the brown grumous material found in the gall-bladder. They have since continued to move freely, but there is a lack of bile undoubtedly due to the long-continued backing up of the biliary secretion causing a hypertrophic cirrhosis with atrophy of the hepatic cells. The urine still contains a small quantity of bile, but it is diminishing. The patient is at present able to attend to her household duties, and is perfectly free from pain.

DR. DUDLEY TAIT: I think Dr. Barbat acted wisely, under the circumstances, though the report of a successful case before a month has elapsed is somewhat premature. I do not see why the vertical incision was used—the curved incision is the one I generally adopt and it seems better. The value of the Murphy button in these cases cannot be contested, but this can hardly be said of its general use in intestinal surgery, on account of several objections, as an obstruction by fecal matter, the small size of the button and, in consequence, subsequent constriction.

Dr. Campbell Ford: This is the best location for using the Murphy button and it will be employed longer here than in any other part. All of the methods formerly used are being abandoned by leading surgeons, the union of hollow viscera presenting a difficult mechanical problem. Various methods for inserting the needle have failed because, in all, the law of physics, "action is always equal to reaction but opposite in direction," was violated. I believe that one of the sutures described by me before this Society not long ago, suits cases of this kind better than any other so far suggested.

Dr. G. F. Shiels: I agree, in general, with Dr. Tait's remarks, except that relating to plugging of the button with fecal matter, which I think is very rare. The dangers with the button are very few, and it is certainly a very useful appliance.

Dr. G. W. Davis: Why not, as Dr. Tait suggests, anastomose the common duct instead of the gall-bladder, with the intestine?

Dr. F. B. Carpenter: The gall-bladder is often full of bile in these cases, there being no outlet for it through the natural channels, and, with the encroaching condition of the mucous membrane of the cystic duct, recovery would be difficult. There can be no adverse criticism of the *technique* of this operations on account of the thickness of the abdominal wall, as well as the other difficulties. There is no danger of opening the bladder; there is a possibility of infection of the thread about the button from the intestinal contents.

Dr. Barbat, in replying, said: The contraction where the gall-bladder joins the duodenum prevents any food from passing into the bladder, as some suggest. The operation is difficult enough without fooling about the common duct. It is impossible to use a suture in cholecystotomy. To suture the gall-bladder to the abdominal wall is impracticable. Such cases suffer from recurrence and the Murphy button must be used at last. I can see no special objection to its use.

A Case of Fatty Tumor Simulating Ascites.—**Dr. W. Watt Kerr** reported the following case: A man, 35 years of age, entered the City and County Hospital, April 14, 1896, suffering greatly from dyspnea. There was a large tumor of the abdomen, apparently ascites, emaciation, edema of the ankles, and all the usual signs in such cases. On examining the patient while lying down, the usual signs of ascites were found, such as dulness of the flanks. The heart and kidneys were normal. From the obstructed portal circulation it was evident the disease had come on gradually for the last two or three years, but his friends state it had been noticable for six or seven years. Cathartics and diuretics much improved his condition, but in a few weeks he became much worse and it was decided to tap him. As we could not get any fluid through the trocar, the patient was referred to the surgical wards in the service of Dr. R. A. McLean. After the first tapping I thought we had a fatty tumor of the omentum, with a small amount of fluid, as I had once seen in a case, in consultation. Dr. McLean operated and found an immense tumor. A portion was removed to admit of closure of the abdomen. The patient died in ten days. The autopsy showed that the growth began in the pelvis and its pressure gave rise to the symptoms of ascites, the time he entered the hospital. After the removal of the ascites by cathartics, etc., the tumor enlarged so as to simulate a refilling of the cavity with fluid. The tumor had pushed the intestines forward against the abdominal wall and so gave us a tympanitic note.

Dr. D. W. Montgomery: I examined this very interesting specimen. Such tumors often arise retro-peritoneally, and act as sarcomata in their steady growth. This one contained striated muscular fibres. There is a great variety in the contents of these tumors. Lately, in Paris, one was found in a young man which contained a female fetus.

Uterus Removed Two Years after Ventrofixation.—**Dr. H. Kreutzmann** exhibited a portion of a uterus which he had removed two years after ventral fixation had been performed upon the patient. The adhesions between the abdominal wall and the uterus were firm, and the silk sutures were still *in situ*. He said he had never confined a woman after this operation, but that some of the cases had become pregnant. If pregnancy is to occur the fixation should be slight, so that at labor it would rupture if necessary. My observations show that we should use only absorbable sutures. We should also try to get fibrous union.

Dr. J. H. Barbat said: Dr. Howard Kelly advises suturing of the peritoneum only, as then the pedicle could elongate two or three inches. The speaker said he thought of putting silkworm-gut sutures through the uterus and skin and removing them at the end of ten days, believing that this would be sufficient.

Dr. Kreutzmann: I have seen Dr. Kelly do the peritoneal operation, but he has now abandoned it. Of course, in relieving some severe pelvic trouble we cannot always make a perfect physiological specimen of the patient. I object to fixation of the uterus if it is, at the time of operation, movable.

Dr. F. B. Carpenter: Chromicized catgut will hold the uterus long enough to form adhesions. Any permanent suture condemns itself.

Skiagraph of the Spine.—**Dr. D. W. Montgomery** exhibited a skiagraph of the neck of a young girl who is suffering from a paralysis of the lower part of the body, indicating a lesion of the fifth or sixth cervical vertebra. The picture looked as if a kyphosis were present. The patient was on a hand car, in motion, when she was struck upon the head by the handle during the down stroke. The blow did not stun her. She has no pain, and never had any except at the point of impact, when first struck. She can move her head from one side to the other, that is all.

Dr. H. M. Sherman: The spinous processes here are more prominent than usual. There is no scoliosis; they are in perfect line. So far as the spine goes it seems to me that the body of the fifth cervical vertebra was crushed. The blow may have violently flexed her head. Paralysis below the point of injury followed at once after the blow was received.

Dr. Leo Newmark: No matter what the condition of the spine may be, there is no doubt that the cord itself is severely injured. Many think that if pressure is relieved the function of the cord will be restored. The trouble is that the injury of the cord may be such that no power can regenerate it. If one in twenty thousand laminectomies do good it seems probable that we will keep on trying them. The prognosis here is bad, though one good symptom is the presence of tactile sensibility.

Dr. Montgomery: The skiagraph indicates a kyphosis. The violent movement of the head might have broken the ligaments or intervertebral cartilage, but, as Dr. Newmark says, the cord was injured at the time. The presence of the sensation of touch is good, and lately the patient is able to feel pain over the right heel, which was hurt at the time of the accident. She also thinks she can distinguish heat.

Dr. C. G. Kenyon: Extension might do good in this case, as in hip-joint affection. A case in St. Luke's Hospital, which seemed due to pressure from effusion, did well with rest and extension.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, August 22, 1896.

The President, J. M. Williamson, M.D., in the Chair.

Dr. F. R. Orella read a paper on a case of "Splenic Enlargement," and exhibited the patient.

Dr. G. F. Shiels: This is, no doubt, a case of enlarged spleen, but as to the cause: I think it malarial, for if malignant, the patient would not be improving in health as she is. It shows how long after malaria, such a condition may arise. I would suggest a blood examination for the plasmodium.

Dr. J. Henry Barbat said: I agree with Dr. Shiels, that the condition is not a new growth. There is not much literature on new growths of the spleen. It would be a question as to whether we would find the malarial plasmodium now. It would be found during an acute attack. It is because of its presence that we have the febrile attack.

Dr. E. E. Kelly: The tumor is, no doubt, of malarial origin, as the patient has had chills within the week. As Dr. Barbat says, primary tumors of the spleen, except due to malaria, are seldom reported. I have a case on hand now which was sent from Humboldt county. The patient has been taking many grains of carbonate of guaiacol daily for consumption. There was no dulness over lungs and only a splenic enlargement. The patient has night sweats, and afternoon fever. I thought of malaria, and on an antimalarial treatment the patient has improved.

Dr. D. W. Montgomery: Some time ago I examined an enlarged spleen. It could easily be made out, the notch of the hilum could easily be felt. The patient, a woman, was quite anemic and we thought we would find a leukemia; but on examining the blood from the finger, the red corpuscles numbered, I believe, 4,800,000, and a very few white ones. The white corpuscles were normal from the spleen. Under the rest cure she gained weight and the size of the spleen diminished. On trying to draw blood from the spleen; a fluid was obtained, which, upon examination, showed large cells, nuclei, surrounded with protoplasm. When stained they looked as if the protoplasm was arranged artificially. I had never seen such from the spleen, nor from the abdominal cavity, which I thought we might have entered, as our needle was short.

Dr. D. D. Crowley: While most of the enlargements of the spleen are malarial, we should not lose sight of the fact that malignant growths can and do occur. I recently had under my care such a case, though it passed from under my observation, and, I learned later, died.

Dr. Dudley Tait: In this case, we must throw the question of malignancy to one side, as primary cancer of the spleen is unknown. The history here is malarial also. I have seen two cases of secondary cancer of the spleen from kidney cancer; one of them was operated upon but died 12 hours later from hemorrhage.

Dr. Montgomery: The case I spoke of was not malignant, for, while under an anti-malarial treatment, there was an improvement for a considerable time, which would not have been the case if it was a secondary tumor of the spleen, as these grow very rapidly.

Dr. G. E. Caglieri: There are a few points in this case which should cause us to hesitate in saying it is an enlarged spleen. If she has suffered 10 years, we should expect to have some enlargement of the liver. The tumor has grown rapidly, it seems, just lately. At times it is very tender in spots. The tumor is movable and falls down. Of course, we may have tenderness over an enlarged spleen, and it may also feel nodular. This patient does not have the peculiar look said to be characteristic of splenic enlargement.

Dr. Shiels: Is it true that the plasmodium malariæ disappears early in malaria, or is it not a fact that it can be found at any time during a chill? If so, it could be found here, and should be looked for during the next chill.

Dr. H. B. A. Kugeler: It is present during the chill,

Dr. Barbat: When I stated that it would be too late in the disease to find it, I did not understand that the patient was having chills regularly now. The mobility of this spleen may be due to its getting heavy and dragging on its ligaments.

Dr. Montgomery: The plasmodium malariæ is hard to find, even during a chill, unless one is used to looking for it. Osler was a disbeliever until he went to Baltimore and found many, since which time he has been a firm believer. A patient who has once had malaria is apt to feel chilly at any time during his whole after life.

Dr. Kugeler: I lately read an article in the *New York Medical Journal*, I believe, of a case which the author called "Pseudo Leukemia," where the red corpuscles were 4,500,000, and the white ones in proportion of 1 to 300. I cannot, however, see why he calls it *pseudo* leukemia.

Dr. J. McCone had examined the case in April last. The woman had improved greatly under anti-malarial treatment during the last four months. The tumor feels firm and hard, and not nodular as Dr. Orella states. The *lower* border could vary from the tumor, lowering, while the size of it would remain the same. The falling down of a heavy spleen is a clinical fact, and if we have secondary malignant growth, it would be more liable to be fixed. The therapeutic point is a continued treatment by arsenic, etc.

Dr. Orella: The fact is, this woman had been to many physicians who said it was a cysto-sarcoma. At times she complained of swelling and pain around the border of the tumor, and she could not stand corsets.

Tubercular Meningitis from Infected Milk.—**Dr. H. B. A. Kugeler** spoke of a case of tubercular meningitis which had been caused by milk supplied by a tubercular cow. The patient was a child 1½ years old, whom the parents thought was teething, as it had some slight indisposition. Symptoms of meningitis came on, all of which were of a tubercular character, the child dying five or six days afterwards. There was no tubercular history. Last week it was found that the child had been fed on cow's milk, supplied by the milkman, who had 40 cows out of a herd of 58 killed as consumptive, by order of the Board of Health. This man has since moved over the line into San Mateo county, where he carries on his business.

CALIFORNIA NORTHERN DISTRICT MEDICAL SOCIETY.

Sixth Annual Meeting held in Marysville, October 13, 1896.

MORNING SESSION.

The sixth annual meeting of the California Northern District Medical Society was held in Red Men's Hall, Marysville, Tuesday, October 13, 1896, the meeting being called to order by the President, A. W. HOISHOLT, of Stockton.

Address of Welcome.—In the absence of the Mayor, W. T. ELLIS, JR., MR. W. H. CARLIN, the City Attorney, delivered the following address: *Mr. President and members of the California Northern District Medical Society:* It is a source of pleasure to me to meet you here on this occasion, but it would be a greater source if I could sit here and hear somebody else address you. Unfortunately for me the Mayor is absent, and, more unfortunately, only two minutes ago Dr. Powell sent word to me that I must meet you. On behalf of the Mayor and the city of Marysville I extend to you the welcome of the city, and trust that you will have a good time here. I know you will. I know you are a body of men that always have a good time, if there is any chance to have one. I cannot stand up here and talk to you gentlemen about the topics that you are going to discuss. I do not understand them. I never yet in my life saw a doctor in the witness chair that I could understand one-tenth part of what he said, or any body else except the doctor. I say that with all respect to the fraternity and for the code of ethics that you are taught in your schools. I only wish in our profession we had a like one. We realize, as members of the laity, the importance of these meetings. It is a sign of the progressiveness of the times. It is a sign of more liberality, more intelligence, more concert of action, when bodies of men of your class meet in council and exchange experiences. It would be better if the attorneys throughout the State would do the same thing. In that way your minds broaden; you are benefited by the experience of your brothers, and you go back to work feeling that there is something else in life besides the common drudgery of practice.

T. P. PEERY, of Yuba City, on behalf of the Medical Society of Yuba and Sutter counties, said: It has been the custom at each meeting of the California Northern District Medical Society for the President of the local Society to deliver an address of welcome. Unfortunately, here the President of the local Society is not a public speaker. The relation existing between the Yuba and Sutter County Medical Society and the California Northern District Medical Society is somewhat like that existing between mother and daughter. We organized the Northern District Society, and we have a right to be proud of that work and of this organization. At the meeting of our Society in Marysville, in 1890, we discussed the advisability of forming a district society. The scheme met with the hearty approval of our members, and our Secretary was instructed to send out invitations to all regular physicians in good standing in the five or six adjoining counties to meet with us at a future date for that purpose. They came at the time appointed, and this Society was organized. The next meeting was well attended; and in fact the California Northern District Medical Society has been a success from its very beginning. It has extended its borders, until to-day we have on the roll members from nearly every county in the northern part of the State. May I not be pardoned for exhibiting a degree of pride in mentioning this. Now, in behalf of the Medical Society of Yuba and Sutter counties, I extend to you one and all a hearty welcome.

DAVID POWELL, of Marysville, Chairman of the Committee of Arrangements, said: In arranging the programme for this meeting your committee has thought it expedient to depart from the usual custom of having an evening session. There is a morning and an afternoon session. The afternoon session will continue until the business has been completed. Experience has shown us that an adjournment taken in the afternoon is always attended with much loss of time, and it also happens, occasionally, that some might be prevented from attending an evening session through a desire to return home on a late afternoon train. I hope, however, that that will not occur to-day, because the most convivial if not the most instructive part of the programme will take place this evening at the Western Hotel, at 9 o'clock, and I am sure that there is nothing derogatory to your good taste in the hope that you will all enjoy this with as much relish as you will the more scientific part of the exercises of the day. Some of you will remember that once before we met in this hall; I think it was the second semi-annual meeting; and I am reminded that at that meeting he whose sudden death a few days ago cast a shadow over the community where he resided so long, occupied the President's chair. Dr. Cleaveland, of Biggs at that time, later of Oroville, was active in the organization of this Society, and he never failed to exert his influence and devote his time to promote the interests of this Society. He was, as you all know, a genial, polished gentleman, an accomplished, intelligent physician, and his death; indeed, is a grievous loss not only to this Society, but to the many friends and patrons to whom his genial presence was always a comfort in their sickness, and in their distress a comfort and a solace. I may very truthfully say that there are few men in any community who were more honored and respected than was Dr. Cleaveland in his home at Oroville, and very few, indeed, of us, whose death will be more sincerely regretted. I believe that a word in his memory is due from me, because he was associated with us in the early organization of this Society, and none of us took a greater interest in these meetings than did Dr. Cleaveland. Our meeting in this hall also reminds me of the marvellous progress and growth of this Society since that time, now less than five years ago. Then, as Dr. Peery has told you, its members represented but three counties, and our attendance was small; now this meeting of representative men that we have here to-day shows that there was a place for a district society of this kind, that has now become one of the established medical organizations of the northern part of the State. We have sent out invitations to a number who have been unable to attend this meeting. One of our esteemed honorary members, Professor L. C. Lane, of San Francisco, wrote to me that he regretted very much that his professional duties would prevent his attendance at this meeting, and in concluding his letter he says: "I have observed the published transactions of your Society, and congratulate you on the excellent work you are doing." I think a word ought to be said in regard to that matter, and that we should express our obligations to THE OCCIDENTAL MEDICAL TIMES and its editor for the publicity given to these meetings, and for publishing our transactions. We would not have been known in other portions of the State as a Society without the assistance in that direction that has been given us. I do not think that any of us can feel too kindly towards or say too much for THE OCCIDENTAL MEDICAL TIMES.

Annual Address.—The annual address was then read by the President, A. W. HOISHOLT, of Stockton, the subject being "The Commitment in California of Persons Alleged to be Insane." [Published at p. 672.]

DR. T. W. HUNTINGTON, of Sacramento: I am impressed with the fact that the paper to which we have just listened possesses a merit peculiar to itself and peculiar to the situation which it has discussed. In the first place, its merit as a scientific production is beyond any necessity for discussion. That which appeals to me particularly is its humanitarian aspect; and I believe that the good that may occur from such communications as this may be almost without limit if it be put into the proper channels. I rise now for the purpose of making a motion that a copy of this paper be furnished to the following State officers: The Governor, members of the Board of Examiners, each Judge of the Superior Court in the State of California, and each Sheriff. I think the bringing of this matter to the attention of these officials will itself accomplish very much in the interest of those afflicted mentally. I am sure that the Sheriffs, after their attention has been called to this matter, would do very much towards ameliorating some of the abuses to which our attention has been so forcibly called, and which are familiar to most of us who have had opportunities for observation of the condition in which patients come to us from the hands of the Sheriff. I very much hope that this motion will prevail, and that this communication can be spread broadcast throughout the land.

DR. C. E. STONE, of Marysville: I rise to second the motion. I was very much interested in the paper, because I have had considerable experience with insane persons, and have always found that kind treatment was the better plan of managing them. In 1850 I had a friend whom I knew before I came to California. He became insane in San Francisco, and returned to the locality where I was then practising, at Lone Bar. By the time he arrived there he was almost uncontrollable; the driver and passengers on the stage had had a great deal of trouble with him. I found him strapped to a cot and three men were holding him down in his bed. He begged me to let him up, and I told him I would untie him if he would promise not to leave the tent. I untied his hands and he arose up in bed, and I had no further trouble with him. At night he slept in the tent. I made him promise to go to New York and report himself at his brother's place of business. He followed my instructions implicitly, and he is now confined in an asylum in Pennsylvania. That is one instance in which kindness instead of coercion controlled a violently insane person, even at that early day. I was very much interested in the Doctor's idea that less violence should be used, and that more care be taken in examination. The examining physician, as he says, should, if possible, ascertain the previous condition and surroundings of the patient and enter into a more general investigation.

DR. W. E. BRIGGS, of Sacramento: The paper shows us the progress that the profession has made in this particular field of medicine. Not very long ago even the medical profession looked upon the insane patient as a criminal. just as the laity does, largely, at the present time. The medical profession, of course, has outgrown these crude ideas, and the public, in the more intelligent parts of the community, has learned better, but, as the experience of the asylum physicians shows, an ignorance and a criminal conduct towards these unfortunate patients still exists which seems almost incredible. I believe this address ought to be spread broadcast, and be sent to members of the Legislature. I would like to ask if the asylum physicians have prepared any new laws in relation to the commitment of the insane. There is a Code Commission now at work, and it seems this would be a very auspicious time for such a new law to be formulated in accordance with the most progressive ideas on the subject.

DR. T. P. PEERY, of Yuba City: I would like to ask whether it would be illegal to hold an examination of a supposed insane person in private?

DR. B. M. GILL, of Dunsmuir: This forcibly reminds me of a remark I made at Stockton in regard to the qualifications of the usual medical examiner. I then said that I thought it should not be an appointment for political honor, but that members of the profession who were appointed to examine the insane should be the very best that each locality could provide, and I think the paper fully illustrates the idea that it is a very important matter.

THE PRESIDENT: Last week I spoke to the Governor about a modification of the existing law, and he questioned me in the direction of the commitment of the insane. He said he would have the Code Commissioners look it up and draft a new law, and he wished to see what I had to say on the subject. In regard to examinations in private, I think the Judge could not allow an examination to go on simply in his presence, nor allow the two examining physicians to examine the person alleged to be insane without his presence; but he certainly has a right, as I understand it, to exclude curiosity seekers and people that come in from the street, or lawyers who are not interested in the case. If I am mistaken, then certainly the law of California should be so modified that it would not be necessary to allow the whole Court-room to be crowded whenever a person is examined who is alleged to be insane.

The motion that reprints of the paper be furnished the State officers was then put and carried.

Local Anesthesia.—JOHN FIFE, of Red Bluff, read a paper on this subject. He said: He desired to call attention to a valuable method of local anesthesia that had not received the attention from the profession that it deserved. The use of cocaine hypodermically was attended with considerable risk, and several fatalities have been reported. Schleich's method, which he has termed infiltration anesthesia, is perfectly effective and absolutely safe, consists in the intracutaneous injection of one of three solutions, differing only in degree on concentration. According to Schleich, the effect is produced by compression of the vessels, by pressure on the tissues, notably on the nerves, by the lower temperature of the injected fluid and by direct chemical alteration of the nerve substance. The fluid consists of a very dilute solution of cocaine and morphine, with a small portion of chloride of sodium. The needle of the syringe is introduced at a point in the area which it is desired to render anesthetic, and keeping it parallel with the surface is pushed on until the eye is hidden. A few drops of the fluid are then injected and a wheal is instantly produced which is anesthetic. The needle point is then withdrawn and reinserted within the wheal in the line of the proposed incision and the process continued until the whole area that it is desired to anesthetize has been rendered insensitive. If the operation be a simple skin incision, as the opening of an abscess, this is all that is necessary, but, if a small tumor is to be removed, it will be necessary to infiltrate the tissues under the skin after this has been incised. The speaker had used the method in several minor operations and had found it very successful. Its safety was beyond question.

DR. W. E. BRIGGS, of Sacramento: In the operations that I do I have rarely found that I can make use of the method mentioned by the author, with any advantage, and I have never tried it. The conditions in operations about the eyes and lids, are such that I believe it would not be applicable. The 4 per cent. cocaine solution has usually been sufficient, and the operations do not require sufficient cocaine to produce constitutional disturbance nor to cause any alarm. I have sometimes found cocaine, when using it in the throat and nose, and, in one case, in dropping it into the ear where the whole drum was gone, to give rise to alarming symptoms. The cases that I have been most alarmed about were those of small children, when operating for enlarged tonsils or for adenoids, and I have ceased to use it in these operations. I think it has very little effect in relieving the pain and I am not sure but it increases the tendency to hemorrhage. With these exceptions I have found cocaine reasonably efficient, and it has not shown any dangerous tendencies.

DR. T. W. HUNTINGTON, of Sacramento: There is one consideration in connection with this matter which I think can be brought to the attention of the Society with profit. I have had no experience whatever with this particular form of anesthesia, but with regard to local anesthesia in general, the thought which has occurred to me many times is: That under any form of local anesthesia the element of haste in the operation is a very important one. The effect of cocaine is evanescent, and the operator who has established the policy of operating under it must also recognize the fact that he must be ready to operate very promptly, and must expect to close his operation within a very few minutes. Now comes the secondary thought: That no operation should be attempted with the idea of terminating it at any definite time; that is, the operator should never name a period over which the operation must extend. Very many times in my experience I have entered upon a procedure which I regarded as trivial, one requiring but a few moments' time, and one which did not require that amount of preparation and forethought which the graver operations necessarily require, and have found myself involved in a complexity of circumstances within a very few moments which were, in a measure, appalling. Searching for a foreign body in the tissues is a good example. You may think you have it right under your grasp, and may think it is a matter of a little bit of an incision and reaching for the foreign body with a pair of forceps. You will find, however, after a diligent search of five minutes, that you are no nearer than at the beginning, and you go on searching for an indefinite time. If you are operating under cocaine, your patient is watching you, and his fears and anxieties very materially affect an operator who has the nervous system which I possess. I believe there are few operators whose action would not be influenced more or less by that sort of consideration. The removal of so simple a thing as a sebaceous cyst sometimes involves a long course of dissection which is entirely out of proportion to what was promised at the inception of the proposition. I have very often said to those who have stood about me during operations, that no surgeon should regard any operation as trivial, and no surgeon should regard any operation as a short operation until after he has completed it; and with that consideration in mind, I am disposed more and more, as I go along, to avoid the use of local anesthesia, and to resort to that which is more satisfactory, in my opinion—ether anesthesia. I believe, however, that in selected cases, and in those cases where you are absolutely positive, or as nearly absolutely positive as the human mind can be, that you can proceed rapidly and finish your work with a few strokes, that this particular sort of anesthesia is a valuable addition; and from that standpoint I certainly would be disposed to approve it.

DR. FIFE, of Red Bluff: The same objections that have been made to the method which I have just attempted to describe I think will hold good against any method of local anesthesia. As to the length of time within which one is compelled to perform an operation, I believe that I never have found a case in which I was not able to complete the incision during the time that the anesthesia lasted. Dr. Schleich claims that the anesthesia will continue for a period of 25 minutes, and all ordinary operations can be completed in less time. It is true in some cases of sebaceous cyst that a longer period of time would be required to remove the entire cyst, but that has not been my experience. The principal use of this particular method, it seems to me, is in the case of the country practitioner, who is frequently called upon to perform minor operations at long distances from assistance—fifty miles, perhaps. As a rule, ether is rather too bulky to use where prolonged anesthesia is required, and he has to use chloroform. He has to intrust the use of this to some person who has never given it before. It is in such cases that this method will be found to be of great benefit.

DR. O. STANSBURY, of Chico: I have never used the particular method that the author speaks of, but I have been in the habit of using plain cocaine solution. If he has ever noticed, for instance, in amputation of the fingers, he does not get union as readily with local anesthesia as he does under a general anesthetic. In my experience, we sometimes fail to get union by first intention.

DR. FIFE, of Red Bluff: I never have performed amputation of the finger by the use of local anesthesia. The anesthesia in this particular method is not due to the cocaine; that is a mistake. The cause of the anesthesia is principally the compression. There is no question about it, because it can be produced with simple sterilized oil. By using simple sterilized sweet oil you can accomplish practically the same result, except that the injection is followed immediately by a slight pain, which is overcome by the use of this solution. Anesthesia may also be produced by simple water, or by a very dilute salt solution. It is not the cocaine that does it. The morphine and cocaine are given principally to overcome the pain following the operation.

Ununited Fractures of the Tibia.—S. J. S. RODGERS, of Marysville, presented a paper upon this subject. He began by recounting the accepted causes of delayed and non-union of fractures in general. Special attention was devoted to the faults in apparatus now and formerly in use by many authorities. He attributed the cause of delayed union in a fair proportion of cases to a failure in securing immobility or permanent fixation of the fragments. He exhibited a steel splint of his own device which had served an excellent purpose in the management of such cases as had come under his observation. It consisted of a steel sidebar, to which was attached an upright of the same material for lateral foot support. To the sidebar was attached an open circular band which, through the medium of a set screw, could be made to encircle the calf of the leg at any point deemed proper. This splint was fortified by felt supports, and the whole secured to the affected limb by bandages. Several cases admirably illustrating the efficiency of this apparatus were reported.

DR. T. W. HUNTINGTON, of Sacramento: There can be no question whatever that operations have been done in cases to which allusion has been made which could have been avoided. There is no question that where operations have been done, patience, careful treatment and skilful handling would have avoided the necessity, and the result would have been better by the longer and more tedious procedure. I believe, however, with the author that all such procedures will occasionally meet with disappointment, and that we may change our case from one of hopeless non-union and convert it into one of delayed union, and a cure be effected. In general the term "ununited fractures" is a misnomer. The ordinary cases of pseudo-arthrosis are, as a rule, cases of delayed union and not of non-union. There are two classes of cases which properly come under that term: (1) Where there is no effort whatever at any sort of union; where the ends of the bone become hardened, ivory-like, and polished. There is usually a slight depression in the lower fragment or the one upon which the pressure is exerted; and the other fragment is rounded off so as to make a sort of ball-and-socket which is loose, and which does not fulfil any of the conditions of even a false joint. (2) Where there is diacrasia, and where every effort has failed to produce anything better than pseudo-arthrosis or fibrous union. These two classes of cases are very rare, and practically cut but little figure in the general consideration of this topic, and nearly all cases come under the head of delayed union. In support of this statement we have the figures which are given to us by F S. Dennis, of New York, in which he claims that out of 10,000 cases he has never seen a single case of non-union. Another author gives us between 500 and 700 cases of fracture, with only one of positive non-union. Clevenger, of London, has tabulated 2,500 cases, with but one case of non-union; hence I shall confine my remarks to that class of cases which comes properly under the term delayed union. The causes set forth by the reader are those which are usually mentioned. The relative frequency with which we get delayed union in different parts of the system comes in about this order: the humerus, the femur, the forearm, and the leg. A very interesting point in connection with the location of ununited fractures, and one which is of considerable importance to the surgeon, is mentioned by a recent writer. It is that the direction of the nutritive artery of the bone affected must be taken into account when you have a probability of getting a rapid or delayed union. To illustrate: In the humerus it is shown that a very large proportion of the ununited fractures occur in the upper portion of that bone. This is due to the fact that the nutritive artery of the humerus enters with its direction toward the median joint—that is, towards the ulna. In the forearm the case is reversed, and we find that the greater number of cases of delayed union in the radius is near the wrist-joint. This is attributed to the fact that the nutritive artery of the radius takes its directon towards the median joint—that is, the ulna, and hence we have the distal end of the radius and the proximate end of the humerus giving us the greater number of ununited fractures or delayed union by those two bones. In the thigh and leg the case is reversed. There we have the nutritive artery of the femur entering the bone with its direction toward the hip joint, and the greater number of ununited fractures of the femur, occurring toward the knee. In the tibia, the greater number of cases of ununited fractures are toward the knee also. These points are particularly important in enabling the surgeon to outline a prognosis for his patient; and the prognosis is an extremely important feature in dealing with this class of cases. You can say to your patient, if you have a fracture near the shoulder joint, that in the first place the humerus is the most frequent seat of the ununited or delayed-union fracture, and this particular point is the most frequent place of all for that condition of things. If ever you happen to be so unfortunate as to run against a case, you have prepared your way for it and given yourself a very important leverage in the future management of the case. The reader alluded to the fact that in some of the earlier wars gunshot wounds caused a very large number of pseudo-arthroses. That unquestionably is true. We have it not only from Larrey but from the very many surgeons who participated in our late unpleasantness, that gunshot wounds were very commonly attended by non-union or delayed union. I fancy, however, that this condition of affairs will be materially modified in the future. We shall find in the future that, our original wounds being better treated, being so treated as to avoid the septic complications which have always attended military surgery, we shall have rapid healing and an avoidance of the tedious delay which we have noticed so frequently. Furthermore, the healing of the original wound rapidly will enable patients in these cases to be treated mechanically, either upon the plan outlined by the reader or by some other equally good, so as to give immobilization, and so fortify us against this unfortunate accident. Among the accidental causes of delayed union, and, under certain conditions, I should say, of non-union, we have one to which our attention has not been sufficiently called; that is the interposition of the incarcerated portion of the bone. I have no doubt that the interposition of soft tissues is a very common cause of delayed union; but I believe that a more obscure and a more provoking cause of this trouble is the interposition of a small portion of bone, perhaps in the medullary canal. I recall a case which had become positively a nightmare. It was one of delayed union of a thigh fracture, where every effort possible had been resorted to; an immense amount of time was spent and a patient appeal made to every known resource for the provoking of union, even to drilling the ends of the bone. and the method known as that of Ridlon—the constriction of the part, pummeling of the part, concussion, and percussion, and yet there was failure. The history of the case was this: He was operated on carefully and aseptically and the ends of the bone excised, the medullary portion of the bone carefully examined and no evidence of disease could be detected, still we had non-union. A second operation was done at the request of the patient, and still there was no union. In that case, by some accident, or as a consequence of some peculiar condition existing in the limb, suppuration was established, and septic osteomyelitis resulted. The portion of the bone extending into the condyles became an abscess cavity, and the patient wasted away and was in a terrible condition—threatened with amputation, and even with death. He finally wished for another effert to be made, and we went in the third time, making a short resection, as had been done before, and in examining the cavity below the fracture, a small fragment of bone, which had undoubtedly been left there at the time of the accident, was discovered. Incidentally I will mention that a window was made in the external condyle and a drainage tube inserted through the incision wound and brought out through the lower opening. The case went on to rapid recovery, and the man to-day walks on two very good limbs. He has more shortening than he was entitled to, and more disability about the knee-joint than he should have, had it been possible to detect the real situation. This leads me to say that a more careful search for comminutions with fractures is essential to the avoidance of this condition of delayed union. I believe that where it is known that comminutions exist, no effort should be spared to secure as prompt union as possible, and if prompt union does not occur, operative procedure should be resorted to without too great delay; for this reason, that if you have a well organized fibrous union established, and if the parts have become inured to that sort of life, the operative procedure must be very much more extensive and the shortening of the bone more marked than it would if the operative procedure were taken up at an early period. It is my practice generally, if I have a comminuted portion of bone which is beneath the skin, in a simple fracture—this goes without saying in a compound fracture—which is apparently involved between fragments, I make no hesitation whatever in operating on the patient. I have done so with great satisfaction in a number of instances. There is no reason why we should not expect primary union of the skin wound, and none why, after the removal of such a fragment, the case should not go on to cure, and to a very satisfactory cure. With regard to operation, the methods of to-day, barring antiseptic precautions, are not very different from what they have been for two hundred years; the resection of the fragments, and the introduction of some material which will maintain apposition of the surfaces. Later authorities have suggested, and a few have put in practice, the idea of something more than wiring. Wiring, in my own experience, has been an efficient and satisfactory method, and I see no particular reason why, under ordinary circumstances, we need not use a bit of silver wire for the accomplishment of this object. I believe this subject is perhaps of as much importance and interest to us as any other, in that more cases of procedure for alleged malpractice have arisen from this class of cases than any others, and the avoidance of delayed union in fractures is a very important feature. While I see no particular objection to the splint which the writer has shown us, and while unquestionably it answers a very excellent and useful purpose, I believe that an application of plaster is perhaps its superior, and in my hands would be a preferable splint for cases similar to those he has alluded to. I have used plaster of paris more and more frequently every year. It is something that is generally at hand; it can be used by him who is in the habit of using it with the greatest amount of facility. It gives to the patient a degree of comfort which surpasses almost anything else that I personally have ever used, and for that reason I shall adhere to it.

Dr. B. M. Gill, of Dunsmuir: I think it would be a good idea if every practitioner, every surgeon, would inquire into the previous history of his cases in the beginning. It will oftentimes prevent future complications. There are many cases of hidden syphilis. I have no doubt those people that were wounded at that time mentioned in the paper subsisted upon a diet that made it possible for scorbutic conditions to exist. I know in the late war it was thought that very many cases of non-union of fracture by gunshot wounds were due to the scorbutic condition of the men. In regard to resection, I have thought many operators are too apt to spare the bone. An observation of the fragments which are resected will almost invariably show a tendency to the formation of fibrous structures in the canals of the bone, and almost every individual who operates sometimes feels dissatisfied with himself for not taking off more bone. I think it indicates the necessity, after all other measures have been thoroughly tried, to operate at an early day. Resection of the humerus, for instance, six months after the fracture, will not always be attended with success unless a very liberal amount of bone is resected. One of the causes that tend to hinder union of the humerus many times is that the musculo-spiral nerve is severed, and that interferes with the nerve supply.

Dr. Rogers, of Marysville: My paper intended to treat simply of ununited fracture of the tibia; but I am glad this discussion has taken so wide a range. One of the principles of this treatment that I have described I did not state—that is, it brings the fractured portions of the bone so firmly together that they are immovable, that the pressure consequent upon their close apposition produces a secretion of material which results in a firm callus, which ultimately becomes sound bone. In regard to fractures in general, I will describe a case that I had a good many years ago. A man in turning over in bed one morning fractured his clavicle. I treated him, and there was no union. I put everything on his arm and shoulder that I possibly could make fit there, and still there was no union, no formation of any callus, no sign of it. I cautioned him not to go outdoors, not to run about, and to be careful how he moved, and that if he fell down he would fracture another bone. He was a strong, stout man; and he looked at me as though he did not believe me. I said, "You may get up and go about the house, but if you have to go outdoors be very cautious how you go, and, if it is necessary, have somebody to assist you in going down the steps." He got up in three or four days afterwards; he went outdoors, and he thought he did not want any assistance. He made a misstep and fell and fractured his right femur twice. Then I tried to bring about union there. I put on all the dressings I possibly could, but there was not the least sign of union, first or last, and in the course of a few weeks he died. So there are some cases that I am satisfied will not unite.

Afternoon Session.

Malaria.—T. P. Peery, of Yuba City, read a paper on this subject. He said: He did not propose to deal with the etiology of the disease, as this was less important to the practitioner than its successful treatment. The principal element in the diagnosis of the disease was its periodicity or the intermittent character of the fever. The well known effects upon the spleen, liver, and other abdominal organs should also be borne in mind. Any depressing effect upon the system was liable to evoke the latent malaria. This he had seen in cases of labor or of abortion, where chill and fever had followed delivery without any connection with the local conditions. He had often questioned in which way we made mistakes; whether by treating every fever and headache as if caused by malaria, or by treating every headache, cough, etc., as an independent disease. In the matter of treatment, quinine still remains the foremost remedy. Even in dilute solutions, it has been shown that it destroys the plasmodium, and, therefore, the ideal mode of administration should be by injection into the blood stream directly. Obviously this could not be generally done, and administration by the mouth would continue to be the usual method. Often we find in malarial fever, bilious vomiting and such a state of the digestive organs as prevents its administration. It is here that calomel becomes the important remedy. Even if vomiting be not present, quinine always acts better after the administration of a laxative, and it is not a matter of indifference what laxative be used. In the diarrhea that often accompanies portal congestion, calomel was most useful. He did not always use the mercurial purge but when there had been fever for three days he believed it was necessary. It was not necessary to await the action of the purgative in order to give the quinine. To cut short the chill, he had found morphine the best remedy. If the temperature was high, he used acetanilid in combination with caffein or other stimulants. After the fever had been broken one of two courses were open: (1) To continue the use of the quinine in moderate doses for several days. (2) To give it in large doses on the seventh, fourteenth, and twenty-first days, or, as he preferred it, twice a week.

Dr. J. E. Rodley, of Chico: Malaria is something that all physicians in the Sacramento valley ought to know something about. It is an ailment that we have to deal with, more than any other. Well marked malarial difficulty generally shows itself by enlargement of the spleen. The spleen is the organ principally affected. I believe that congestion of the liver, due to malaria, is more secondary in its type. In the treatment of this disease I invariably use calomel, whether or not the patient has himself used purgatives before. It seems to me that quinine does not seem to have that effect without calomel that it has with it. Given a case of regular intermittent fever, you can give a man quinine for three or four days, whether his bowels are moving right along or not, or whether he has taken some purgative, and you can continue the quinine, and I have given it in heroic doses, and never has it had the same effect as when I gave calomel before. In fact, I have given quinine for three or four days and had no effect from it. It seems it is not absorbed, but after giving a dose or two of calomel, I have had the immediate effect of the quinine. Lately, in regular intermittent or remittent fever, where I find the temperature 103.5° to 104° F., and where we have a good strong heart, instead of using morphine and other things to relieve the excessively high temperature, I have been in the habit of giving acetanilid. I generally write a prescription for 5 grains of acetanilid, and syrup and brandy in equal parts, continuing this every hour until the temperature is reduced, which usually takes place inside of two hours. I have followed those cases up with heroic doses of calomel, from 10 to 12 grains, and afterward with quinine. I never wait for the action of calomel. I give the calomel and two hours afterward give the quinine, whether the bowels move or not. It seems to me that after giving the acetanilid, and after relieving the portal circulation, the quinine seems to have a quicker, better, and more decided effect. After I have given the calomel I generally follow it up by a cathartic, probably five or six hours after the calomel, and then give, about two days afterward, nitro-muriatic acid in 25 to 30-drop doses. I have never had that difficulty of returning periodicity, at 7, 14, and 21 days. In a malarial attack, I never give a man much less than 2 grains of quinine; that is, I give him 3 and 4 and 5 grain doses at a time, at an interval of three or four hours. If I give him 3 grains, I give it every two hours; if I give him 4 or 5, then every four or five hours. Several times, shortly after a woman has been confined, there would be a regular chill with fever following, which would indicate that there was some infection from retained secundines. Upon examining the uterus, I have come to believe it is caused by malaria, and have treated it accordingly, with very good success. After some depleting action, such as a woman experiences in confinement, the malaria in the system will develop. As an example of this, a short time ago a very healthy man cut an artery, and he almost bled to death. In two days he had a well marked chill, and he went right through the regular malarial intermittent form of fever, and I could not account in any other way why the malaria should have developed except by the system being depleted.

Dr. C. H. Gibbons, of Arbuckle: For eighteen years I have practised where we have some malaria, though it is not common. The treatment indicated by the author is that which I have pursued, with the exception of one of my favorite remedies, that I have not heard mentioned, and that is ipecac. If I were obliged to do without calomel or ipecac in the treatment of malaria, I would hesitate which to omit. I often use ipecac in emetic doses, until it acts not only as an emetic but as a cathartic, and find that I have beaten myself out of a good many hundred dollars by cutting short my cases by that form of treatment.

Dr. David Powell, of Marysville: As regards the use of mercury in malaria proper, I cannot see the utility of it. I think that I can treat a case of malarial fever, if it is an uncomplicated case, as well and better without mercury than by giving it; that is to say, I believe that we have a specific in quinine, and that if it is administered promptly and in proper doses, nothing else is required. Of course, there are complicated cases of malaria where I think that ipecac., perhaps a small dose of calomel or of corrosive sublimate, is beneficial, where we have a bad stomach and vomiting, and where the patient cannot retain anything. Here very minute doses of those remedies are sometimes beneficial. But, as I said before, it is not with the intention or expectation of having any effect upon the disease. It is the condition of the stomach and the bowels accompanying the malarial attack.

Dr. Thos. Ross, of Sacramento: How often does each one of us have a patient come to our office and say: "Well, Doctor, I have got the ague, and I have taken bushels of quinine, and it don't seem to have any effect." You take that case and give him small doses of calomel—my habit is to give about 3 grains of calomel with a little bicarbonate of soda, about a half a grain of bicarbonate of soda and about a grain of menthol, divided into 12 powders, and take one of those powders every half hour until the bowels move. You put that patient who has taken so much quinine, on that kind of treatment, and put him right back on quinine, and you will see that his chills will subside. In cases of chronic malaria, I don't think there is anything better than small doses of blue mass. I often prescribe about 3 grains of quinine and half a grain of blue mass made into a pill or capsule, with extract of gentian, three times a day, and succeed in conquering the malaria in the system in persons afflicted with the chronic form. Arsenic is especially good in chronic forms of malaria. In treating a case of malaria, I first give my patient that calomel-bicarbonate-of-soda-menthol powder, one every hour until the bowels move; after that give him a teaspoonful of sulphate of magnesia or some saline cathartic, then I give him 10 grains of quinine at one dose, and then put him on 3-grain doses of quinine three times a day, and very frequently I combine quinine and arsenic. There is more or less latent malaria in all of us who have lived in this valley a good while, and it is my habit in treating any disease, no matter what it is, to give a little quinine. I have had no experience with the use of ipecac., in malaria. As regards the etiology of malaria, it is now understood that malaria is caused by a parasite in the blood. A French surgeon has discovered it, and it has been identified by American microscopists, by the Germans, by physicians in India, and in all places where malaria is frequent. How it gets into the system and how it gets out, and what the conditions are that tend to its development, I do not know, but we know that there is a specific for it, and that is quinine assisted by the action of mercury.

Dr. T. W. Huntington, of Sacramento: I see at all times of the year a great many cases of chronic malaria; cases that have been under treatment by local physicians for a period of days, sometimes for weeks, which have become chronic, not getting well rapidly, and that the physician gets tired of, and the patient shows up at the hospital. Those cases puzzle me very much, as I presume they puzzle almost every person who has had any experience with them, and I confess that even now I am not always successful in terminating them rapidly. After an experience of about 12 years, and after having studied these cases somewhat closely in all their aspects, I have come to the conclusion that we have no one remedy which is more valuable than arsenic. I have come to consider it a routine drug in the treatment of chronic malaria, quite as much as I do quinine, and in fact I frequently treat malarial cases of that type without quinine at all, depending wholly upon arsenic and some mineral acid. My idea is that of Dr. H. C. Wood, of Philadelphia, who claims that the action of arsenic depends simply upon its stimulant quality, that it acts upon the alimentary canal, enabling the patient to digest anything that he may take into the stomach more rapidly than he would without it. I shall be very loth to revise my opinion regarding the value of this drug, and shall proceed in the use of it as I have done in the past.

Dr. C. E. Stone, of Marysville: In early days when it was necessary to relieve our patients very promptly, or very often lose them, as there were no nurses, and they lived in tents or on the ground, the usual practice was to give them a good emetic, combined with the ipecacuanha, following that with a good dose of calomel, and then with quinine. After the fever was "broken," as they used to call it, we gave quinine three times a day, three or four times a week, and continued it for a month or two. Our men worked in the water and recovered rapidly, and we had very little trouble with it. That was the old mode of treatment. It has been modified somewhat in recent years. My favorite prescription now is to give blue mass, quinine, and a little opium, enough to retain it, then give a purgative, following that with a combination of arsenic, quinine, phenacetine and ginger, and I have very good results.

Dr. S. J. S. Rogers, of Marysville: I have lived in this valley over 30 years. Some 20-odd years ago I had a very severe chill, and had to go home and go to bed. I said then I never would have another chill, and I have not had one from that day to this. My remedy was: As soon as I began to perspire I took 10 grains of quinine and nearly the same amount of calomel; repeated it about a half dose next morning, and noon, and the following night 10 grains of calomel, and followed that up. In order to break up a case of malarial fever, you have got to give your quinine on the sixth day, or you will have your chill on the seventh certainly. It takes quinine at least 16 or 18 hours to produce its effect, hence you have to give it beforehand. My rule in treating malarial fever is to give a large dose of quinine to begin with. Much depends upon the condition of the patient, his age, etc. Some will bear more and some less, but I always give a maximum dose to begin with. I give my quinine and calomel together; I don't delay and spin out a case. I never have a second chill if my patients do as I tell them.

Dr. W. A. Briggs, of Sacramento: From my observation there are three remedies for the cure of malarial attacks. They are quinine, quinine, and quinine. These being specifics, they are the only remedies we require for the cure of malarial attacks. We need other remedies and use other remedies for the relief of certain conditions accompanying malaria, or produced by malaria, but my habit is very much like that outlined by Dr. Stone in his remarks—the repeated use of quinine until the spleen is reduced to its normal dimensions, and until all evidences of malarial affection are relieved. Twenty grains of quinine repeated on the second day, if there is no malaria and no evidence of malarial trouble; repeated on the third day, and so on repeating until the seventh, and in chronic cases continuing that until the spleen is reduced to its normal dimensions. Iron and arsenic are very useful to improve the quality of the blood and to increase the resistance of the system to this disease, because we all know that in these malarial paroxysms there is a very large consumption of the corpuscles of the blood, and we must do something to restore the blood to its normal condition. This we cannot do better than by arsenic and quinine, after the congestion of the liver, which frequently accompanies it, is relieved. I do not use purgatives, and do not use calomel as routine measures. Whenever there is considerable evidence of the congestion of the liver, I use a laxative of mercury in some form. I do not think that these remedies are by any means indispensable or even useful in the ordinary case of malarial fever.

The President: Dr. Ross referred to the plasmodium malariæ, or the germ of malaria. Some four or five years ago I read a paper on that subject before the State Medical Society, and since that time the germ has become, I think, established—that is, it is recognized as the germ of malaria. But I will say that I agree with Dr. Peery when he says that it will be some time before the general practitioner will be able to recognize the plasmodium by means of the microscope. During the last two months Dr. Sanderson and I, at the asylum, had some cases of malaria, and we examined the blood in three cases. In two cases there was no enlargement of the spleen, but evidently they were cases of malaria. In the third case there was enlargement of the spleen. We did not make repeated examinations of the blood, but we did examine the blood in each case, and we failed to find the plasmodium, although each of us have seen it and proved its presence. This shows that it is not, at least in our very limited experience, an easy matter to demonstrate the presence of the plasmodium in the blood corpuscle. When I read that paper there was considerable opposition to it, and I remember that Dr. Wythe, of Oakland, was very decided in not believing that there was such a thing as the plasmodium malariæ, and he ascribed the presence of what one sees in the corpuscle as being due to some change of the protoplasm, not to a germ. In connection with the effect of calomel, I will remind you of what the text-books and physiologists say, namely, that the peculiar colored stools we see after giving calomel in good-sized doses, is the calomel itself that has become changed, and not bile that has been removed from the bowels. I suppose there are some that take this as a symptom of the effect of calomel upon the liver. That reminds me of some experiments that have recently been made in Germany on the subject of various secretions, and the results were important, as the experiments were upon a human being. In the past experiments of the kind have been made a number of times upon animals, but this, I believe, is the only case where a very thorough investigation was made of the secretion of bile. It was a case of biliary fistula opening on the outside where the experimenter was able to control or thoroughly examine the secretion. He found that of the so-called chologogues there was not a single one that had any effect on the secretion of bile by the liver except one substance, and that is bile itself. Bile given internally seems to provoke an increased secretion of bile.

Dr. Peery, of Yuba City: I have always given quinine on the sixth day after the last chill. I think that nine-tenths of the physicians in this part of the country are favorable to the use of calomel, and we have a little reason for the faith that is in us. Our President referred to the spinach-colored stools after the use of calomel, and suggested that probably we did not understand it, thinking it was bile. If we have read at all we know better than that, and that calomel does not promote the flow of bile is a pretty generally understood matter, too. On the other hand, we do not know that it is necessary to promote the secretion of bile, and we do not know that there is a diminished secretion of bile. That cuts very little figure as a reason for giving calomel, but that it does deplete the portal vein there is no question, and it does it better than any saline cathartic. I have experimented with these things and come back to calomel. There is no doubt that it settles a sick stomach. As for the ipecac., I like to use it where a patient is not vomiting constantly. Even then small doses will stop the vomiting. While there is a great deal of dispute about calomel and its effect on the liver, some scientific writers saying that it does not stimulate the flow of bile, the greater number say that ipecac does. Corrosive sublimate has been mentioned. I should consider that worthless in any acute case of malaria. It is too slow and uncertain. Corrosive sublimate is supposed to stimulate the flow of bile. Some say that if the flow of bile is increased by the use of calomel, it is because a certain part of it is converted into corrosive sublimate. Corrosive sublimate would be a very poor reed to lean on, because it has not a purgative effect and only slightly stimulates the secretion. As to arsenic, I believe it is an excellent remedy for chronic malaria, but the same objection to its use in such cases hold good, that have been urged against corrosive sublimate. It is naturally an irritant to the stomach, in any ordinary dose sufficient to break up an intermittent. Hardly any man would rely upon it in everyday practice to stop a chill. You might poison the patient before you stopped the paroxysm. Something less harmful, like quinine, is a better remedy for the acute cases. Speaking of the microscope. I think we are "going to seed" in this direction. This mechanical diagnosis in everything looks as if we no longer depended on our own senses and on the organs the Almighty gave us, but rather on the microscopist. Our President says that Dr. Wythe, who is quite an expert in its use, denies the existence of the plasmodium malariæ. How are we to know the truth in these matters?

The President: I would like to make myself clearly understood. When I spoke of the effect of calomel, I did not wish to criticize anything that had been said. I give calomel myself, and consider it very important to do so in cases of malaria. I just wished to state what effect that calomel has upon the liver itself. In connction with what I said about the experiments, as to there being but one substance, bile itself, that induces the secretion of bile, Dr. Peery's opinion might be just as good and it is entitled to just as much consideration as any other man's; but the experiments I spoke of were made in a study of the economy in every detail. It was an enormous study, in connection with determining the effect upon the bile secretion of certain substances. While we may not accept these reports, they have made quite an impression on the scientific world, and I think they will probably prove to be correct. I wish to add that I believe in arsenic.

Dr. Peery, of Yuba City: Speaking of the observed effects of medicine upon the liver, the making a fistulous opening into the bile duct may so upset the system as to change the whole order of things. I do not think such results are to be relied on.

Dr. J. H. Parkinson, of Sacramento: I should not have spoken but for a remark made by the author of the paper in closing the discussion; that is, that nobody would feel like relying entirely upon arsenic in the treatment of malaria. I do not rely entirely on arsenic myself, though I use it very largely.

However, a number of years ago, when I had the opportunity of trying what could be done in this direction, I treated a series of cases without quinine, and with arsenic alone. They were the ordinary cases of ague, such as one meets in general practice I kept a record of them and reported the result to the State Society. They seemed to get along about as well under arsenic, given continuously, as they did under quinine. The arsenic was given in moderate doses. It is a fact that arsenic has been used in the treatment of malaria long before we had quinine., because it is within recent years, comparatively, that quinine has been used, and ague is quite an old disease. In England, particularly, many years ago, arsenic was used entirely in its treatment, and it is still used to-day by many of the common people who are less familiar with the use of quinine.

Aseptolin.—S. E. LATTA, of Stockton, said: He did not propose to theorize on this remedy, so recently introduced to the profession, but would only present some cases, with comments on the method of using it, that he had followed. The remedy was in all cases injected hypodermically, with a syringe specially made for that purpose. According to the printed directions, these injections, at first, were made directly beneath the skin. They were followed by a very painful, burning sensation, and, in several instances, by a subsequent breaking down of the tissues and the formation of a small abscess cavity. This he had obviated by injecting deeper into the muscles. The diet, condition of of the urine, and temperature were carefully watched, the latter being tabulated. He had used the remedy in 8 cases, all of which were reported in detail. He found: "There was no perceptible improvement in any individual case. There was plenty of opportunity to apply the treatment in cases admitted after those already referred to, but, as the injections were painful, and as there was no material benefit given to those already treated, I discontinued it altogether."

DR. C. E. STONE, of Marysville: I am very much interested in the paper. I have never used aseptolin I took a dislike to it when I first saw it advertised that Edson had discovered a specific for consumption, and a further dislike was occasioned from the fact that it had to be prepared at a certain laboratory, and if any one else prepared it, unless they were very particular in its preparation, it would fail to produce the effects which it did with Edson. I saw it used in two cases of consumption at the County Hospital, by my son. He consulted me in regard to its use, and I told him if he had any cases that he knew would not recover, he had better try it. He used it on two patients there, and they, thinking that it was a new remedy and would relieve them, for several days seemed to feel better. The result in both cases was similar to that Dr. Latta has already given. Both cases died. I think they would have died a little easier without the use of aseptolin. I think it gave them a great deal of pain and uneasiness. In one of the patients the appetite seemed to improve for a few days, but as soon as he began to think the remedy was not doing him any good, the improvement ceased. I have had no experience with it. I have always made up my mind that any remedy that is lauded as that was, that has to be prepared in a very careful way by a certain firm, had better be let alone.

DR. THOS. ROSS, of Sacramento: I was very much interested in the paper, especially as it gave an account of cases which the author treated unsuccessfully. We all like to report successful cases, but we are a little backward in reporting cases which have a fatal termination, and a report of those fatal cases is often attended with more benefit and confers more knowledge than successful cases. So far as I can see, Dr. Latta's experience in aseptolin has been similar to that of almost any other physician who has tried the remedy. Dr. Washington Dodge, of San Francisco, at the last meeting of the State Medical Society, read an account of 10 cases treated by him with aseptolin, in which there was no material benefit in any case. Some of the cases showed more bacilli after six weeks of the treatment than prior to its commencement. Many of them lost flesh and some of them gained flesh. Aseptolin seems to me to be a remedy belonging to the class which is gotten up especially for revenue only. It is advertised in our medical journals and in the secular press, and consumptive patients hear of it and insist on their physicians giving them the benefit of this treatment which is reported in the papers to be a positive cure for consumption. The sale of it is thereby increased and the inventor's pockets lined with coin, which is the object to be attained in the first place.

Dr. J. E. Rodley, of Chico: I would not give much for a man who would sit and hear his friend abused, and I may astonish some of you when I state to you that I have had the greatest success with aseptolin. I did not intend to say anything, but I must, in justice to that remedy, stand up here and defend it. I have used it ever since it came into vogue. I have 3 cases in Chico at present, and one in Biggs, that were well marked cases of phthisis. One of them was under the care of one of the most eminent physicians in this State, who diagnosed the case as phthisis. I treated him with aseptolin, and yesterday he said he had gained 16 pounds in 21 days, and that he felt as well as he ever did in his life. I have a man, 25 years old, whose father and brother died with consumption, in whose case there were very severe hemorrhages, as severe as any I ever saw. After two months' treatment, he is now working hard, driving a grocery delivery wagon, and he has taken nothing but the aseptolin. A woman from Biggs, that I treated, came to Chico to visit a relative. Her husband was sick a year and a half with consumption and died with the disease, which no doubt she contracted from him. She had one hemorrhage after another, and a temperature of 101.5° F. a week before I began to give her aseptolin. I tried to control the hemorrhage with ergot, creasote, iron, and everything else that I could think of, and I could not succeed in doing it. I commenced to give her injections of aseptolin, and the hemorrhage ceased almost immediately. I saw her at Biggs the other day, where she was working in a cannery. She said, "I never felt better in my life." I have not treated her for three months. I have never had an abscess from the aseptolin treatment. I now have two patients coming to my office every day. One of them is a young man, who sits down and takes his injection and says nothing about it. The other fellow squirms and does not like it, but it is helping both of them. I am not in favor of these fake remedies, but when I find something that will do the work and has done it, and done it successfully, in my hands, I feel like standing up and protecting it.

Dr. Latta, of Stockton: I must say that Dr. Rodley's experience has been diametrically opposite to mine. I simply give my experience with the medicine, and the symptoms that resulted from its use. I used Edson's aseptolin. I wanted to give it a fair test, from a selfish point of view as much as anything else. I wanted to find something that would cure consumption or help it, and I have been looking for that for several years, but Edson's aseptolin will not do it.

Dr. Rodley, of Chico: As I said before, I do not like to defend any of these fake remedies. I wish I had my patients here, the young man especially; he was under Dr. Hirschfelder's treatment for over two months. His father brought him home and I commened treating him; he gained 16 pounds, and is strong and healthy as he ever was. He sleeps all night and has no night sweats which he had previously, and his expectoration is almost nothing. I asked him about it yesterday and he said, "I don't cough once in 24 hours, and when I do cough I don't raise anything."

A Case of Compound Comminuted Fracture of the Skull—Operation—Recovery.—A. P. Tartar, of Tehama, reported this case. The patient, a man 31 years of age, while in an intoxicated condition, was thrown from a wagon and when found was in an unconscious state. When seen, four hours later, he was partially conscious, with complete motor paralysis of the left extremities, but sensation was little, if any, impaired. Examination of the scalp revealed a Y-shaped wound that admitted the point of a finger. This was situated 3½ inches above and ½ inch behind the right auditory meatus. Examination with the probe demonstrated the presence of a fracture. Being at a distance of 18 miles from professional assistance, the speaker decided to operate unassisted, which was done under chloroform. On raising the scalp flap, a vertical gutter-shaped fracture of the right parietal bone, with marked depression, was disclosed. While the bone was comminuted, there being five pieces, they were so tightly wedged in place that it was necessery to trephine before they could be dislodged. The dura had not been wounded. The middle meningeal artery which had been torn across was not bleeding, and no attempt was made to secure it. Three hours after the operation, having recovered from the anesthetic, he was able to move the paralyzed extremities. On seeing him 10 hours later, it was noticed that the tongue deviated to the left, on protrusion. At a later date patient discovered that his left thumb could not be depended on when passing things at table. His recovery was uninterrupted, and when last seen, seven weeks after the injury, the opening in the skull was closed by a firm membrane. The tongue still deviated slightly to the left and the thumb had not quite regained its normal strength.

Dr. T. W. Huntington, of Sacramento: The case quoted by Dr. Tartar is very clearly an evidence of one fact, to which I have called attention many times. It is this: That it is not so much the environment of the work to be done as it is the care and painstaking and conscientious fulfilment of requirements by the surgeon himself. We can accomplish very much and do a large amount of very successful work under most unfavorable surroundings and circumstances, if we pay strict attention to a few of the more important details. I do not enter upon this ground with any feeling that there should be any lack of environment or any fault in environment, and I am as much in favor of keeping up the standard which has been established for us by hospital architects and modern hospital people as any one, but I still feel like emphasizing the fact that those circumstances and environments are not the essential feature after all, and no surgeon should fail to step in and make a conscientious effort in a case of this kind because he feels that he has not as good sailing ground as his neighbor, or as he would like to have if he could have his own way. With reference to that part of the paper in which the author alluded to the removal of the fragment. He said he was obliged to use a trephine. I have of late used, in cases like this, the Hartley chisel, a grooved chisel, which is constructed particularly for the purpose of plowing a furrow through the skull. It is constructed with special reference to doing resections of the skull in pathological brain surgery. I have found it a most useful instrument as compared with the old-fashioned trephine. It enables one to do just what he wants to do, namely, to cut holes, and the facility with which a bit of bone or a large portion of bone can be removed, is surprising. It is probable that we are on the eve, in our hospitals at least, of having a still better device in the circular saw which has recently been devised. This saw is set between two bars, forming a handle, the motive power being conducted through the axis of the saw, from an electric motor. The operator in this case was extremely fortunate in not having found the dura injured. That is a complication which affects the probable outcome of these cases very materially, in my opinion. A loss of brain substance, where there is extensive injury to the dura is inevitable, and the possible consequences of this loss suggest their own tale.

Dr. Thos. Ross, of Sacramento: I recently saw, with Dr. White, of Sacramento, a case that is, from the very profuse hemorrhage accompanying it, interesting. It was a case of compound depressed fracture of the frontal bone, about 5 inches backward from the root of the nose, in a child 8 years old. The depressed fragment was about three-quarters of an inch wide and triangular in shape. There was no loss of consciousness or of brain substance. On removing the depressed bone, there was an alarming hemorrhage, so profuse that we thought, in a few moments the child would bleed to death. The wound was packed with iodoform gauze which controlled the hemorrhage completely. I never saw anything act so promptly before. The packing was kept in position by a bandage, and no attempt was made to close the wound. The child was put to bed, on the third day the packing was removed and there was no hemorrhage. On the day after the operation the child had a temperature of 102° F., and since then the temperature has not exceeded 100.5°. There was no escape of brain substance. The hemorrhage was so profuse that the longitudinal sinus must have been wounded. The child is doing nicely, and it is now 11 days since the injury.

The President, A. W. Hoisholt, of Stockton: I am reminded of a case in the asylum which came under my observation, in illustration of what quite a number of you no doubt have learned by experience, that the brain may be injured quite extensively, and the treatment may be ever so poor, and still the patient will recover. The case was that of a man some 12 or 13 years ago at the asylum; it was a case of melancholia; he improved and was sent home. While at home he had a relapse, and suicidal thoughts came upon him. He took an ax and with it chopped his head in the center of the frontal bone. That is all that I know about the injury. He got well, but had epileptic attacks afterwards.

Nothing was done for him. One day in an attack he fell against a sharp object and fractured the petrous portion of the temporal bone opening the lateral sinus, and he died in a very short time. I made a *post-mortem* examination, and found that where he had struck himself with this ax there was a want in the skull in width below of a half to three-quarters of an inch and tapering up to a point. Membranous union that had taken place with small islets of bone in the membrane. I found the dura adherent to this membrane, and under the dura there was cicatricial tissue in the cortex, showing that the inflammation that resulted from the injury, and the injury itself, had produced considerable destruction of the dura mater and cortical substance, and the man still got well.

DR. B. M. GILL, of Dunsmuir: I have seen two cases of compound fracture of the skull where the inner plate was depressed at a greater angle than the outer one. In fact, in one case there was scarcely any depression of the outer plate, but after trephining I found the inner plate considerably separated in the center from the outer plate, showing, I presume, the condition of affairs that sometimes exists where fractures of the skull are overlooked and epilepsy follows. It occurred to me at that time that there might be many cases of epileptic conditions existing where it was impossible to determine whether there was fracture of the skull. The cases that I have related quite verify that condition.

DR. TARTAR, of Tehama: I neglected to state that the antiseptic solution used in this case was a 1:5,000 bichloride. There is a point that occurred to me at the time I was making the opening with the trephine, that was that as these fragments came together at the bottom where I could get my elevator in between them, would I not more firmly impact them by so doing? It occurred to me that if I could exert my power at the outer edge, raising it and depressing the inner edge and unlocking them, it could very readily be done, which subquently proved to be the case, when I did so.

Backward Displacements of the Uterus.—W. A. BRIGGS, of Sacramento, read a paper upon this subject. He said: The treatment of backward displacements is still as indeterminate as it was a quarter of a century ago. Innumerable operations have been devised, but not one has been universally, or even generally, accepted with well defined limits and indications. Both text-books and journals afford ample evidence of the confusion which reigns in gynecology not only in regard to the treatment, but even in regard to the pathological significance of backward displacements. Ventro-fixation is authoritatively extolled and quite as authoritatively condemned: vaginal fixation has had recorded its birth, obsequies, and resurrection in less than a triennium; reefing the round ligaments, with its coterie of famous names in prefix, after a fitful and precarious existence promises viability, while, happily, Schuecking's operation is a frank abortion; pessaries are consigned to limbo by the whim of one and recalled by the experience of another, and the pendulum of opinion has not reached a stable equilibrium even in regard to plastic operations. Backward displacements of the uterus are pathological, however, by treble right—they are produced by pathological conditions, they are in themselves pathological, and they produce further pathological conditions. They may be the result of defective development, either intra-uterine or pubescent; of abnormal weight of the uterus; impaired elasticity of the uterine walls; cicatricial contraction of utero-sacral ligaments and utero-rectal adhesions; weight, pressure, and traction of neighboring organs and insufficiency of uterine supports. *Restitutio ad integrum* is the ideal toward which the gynecologist should conscientiously strive. The general nutrition should be improved by all suitable means; the tone of the uterine supports improved by the induced current, massage, astringents, hydrotherapy, and graduated exercise; the absorption of pelvic exudates, when not of too recent origin or complicated by the presence of pus, may be promoted by massage, graduated intermittent pressure with antiseptic tampons, local depletion, hot water douches, heart tonics, and the dry diet; subinvolution should be relieved by electricity, curettage, depletion, and appropriate support; constipation should be corrected; the normal supports should be restored by plastic operations and by shortening the round ligaments when indicated; pessaries often serve a useful purpose; when other means fail and relief is demanded vaginal fixation may be done if the likelihood of pregnancy be excluded; ventro-suspension if complications require laparotomy.

DR. DAVID POWELL, of Marysville: The pathology and etiology of the conditions have been very plainly set forth in the paper. Regarding the treatment I would only say from my own personal experience, having done some work in this line, that when the dislodged uterus is not so firmly fixed by adhesion as to prevent its restoration to its normal position, the use of a properly fitted pessary has always given very good results. It is true that there are a great many cases where the adhesions are so firm that it is difficult to replace the uterus, and the various surgical operations that have been recommended and which the author has described, are sometimes the only measures of relief. But with the preliminary treatment that he has indicated, and more particularly, I believe, the massage treatment, Brandt's treatment so-called, a great deal can be accomplished in breaking up the adhesions and in restoring the uterus to its normal position where it afterward can be retained by a properly fitted pessary. The general condition of the patient is often overlooked, and is undoubtedly one of the most important parts of the treatment of these cases. There are a great many women in such a nervous condition from uterine displacements that they would, perhaps, be more fortunate if they would fall into the hands of the neurologist rather than the gynecologist, because general treatment; restoring their health and correcting their abnormal nervous condition, would do more to benefit them than any local treatment. The methods of replacing the dislodged uterus, the author has not discussed particularly. Of all the methods that have been advised I have found the genu pectoral the easiest and it oftener succeeds than the use of the sound or of bimanual manipulation. I believe, unless the adhesions are very firm, the uterus can usually be restored by proper manipulation with the patient in the knee-chest position. Where there are firm adhesions a long preliminary course of treatment is necessary.

DR. J. H. PARKINSON, of Sacramento: I wish to say a word in relation to the advisability, in these days of gynecological progress—because I believe a great deal of real progress has been made—of carefully considering the point which Dr. Powell has raised, namely, the nervous element in woman, and her ailments. We all know that a great many women go through life, and have gone through life, with versions and flexions, and they know, comparatively, very little about them. We also know that all women are greatly concerned about two organs, the breast and the uterus. If a woman has a small lump or a hardness in her breast, or even constant pain there, we know the immense amount of uneasiness that that will cause her, an amount of uneasiness altogether out of proportion to the local symptoms. It is the same way with the uterus. If a woman believes that she has uterine trouble, that belief will stay with her until the climacteric, perhaps longer. It stays with her year after year; she will tell you she was treated for it, and many symptoms will be ascribed to it. It is the same way with versions and flexions; and while I do not, for a single instant, decry treatment, local or medical, and surgical, if necessary, still I think it is of very great importance to avoid, if possible, naming these complaints definitely, and in the next place to avoid mentioning the irregularities that apparaently are not causing symptoms. I notice that a number of times women have been saddled with these ills, as it were, and they keep carrying them, and their backaches and various other aches are always referred to this trouble. I do think that as we are advancing in diagnosis it is very necessary, first of all, to avoid, as far as possible, a specific diagnosis and an extensive history of the lesion, and, in the next place, to avoid altogether a reference to an obvious lesion. which at that time is not causing symptoms, and which, possibly, under judicious treatment, may never cause them.

Secretary's Report.—The Secretary, E. E. STONE, of Marysville, submitted his annual report. During the year the Society had gained 19 members by election, and lost 1 by death. The number of active members at present on the roll of the Society was 88.

Treasurer's Report.—The report of the Treasurer, O. STANSBURY, of Chico, showed that the Society had received during the year $149, and disbursed $145.50, leaving a balance on hand of $9.65.

Election of Officers.—The Society then proceeded to the election of officers for the ensuing year, with the following result:

President	JOHN FIFE.
First Vice-President	T. M. TODD.
Second Vice-President	J. ELLIS RODLEY.
Third Vice-President	T. P. PERRY.
Secretary	E. E. STONE.
Treasurer	O. STANSBURY.
Board of Censors	W. E. BRIGGS, W. E. BATES, J. S. CAMERON, E. B. ROBERTSON, C. W. NUTTING.

Installation of Officers.—The business of the meeting having been concluded, the retiring President, A. W. HOISHOLT, of Stockton, said he wished to express his appreciation of the honor conferred upon him a year ago, and to thank the Society for the attention shown at the past two meetings, and for the coöperation that various members had given him in arranging programmes. He felt happy in retiring from the chair at leaving it in the hands of as able a man as Dr. Fife, who he felt certain would successfully carry out the interests of the Society. DR. FIFE said: It will very soon become apparent to you why it was that I so strenuously, though ineffectually, called upon the Chairman in the hope that he would listen to me. I wished to decline, or rather I wished to ask the gentleman who nominated me to withdraw my name. I feel that there are many others in this audience who are much better able to conduct the affairs of this Society successfully than I am. I wish you to understand that I thoroughly appreciate the honor which you have conferred upon me, and I will do the best I can to conduct the affairs of the Society with success.

The Society then adjourned to meet in Auburn, on Tuesday, March 10, 1897.

New Members.—At the different sessions the following were duly elected members of the Society:

R. F. WALLACE.
F. K. LORD.
E. F. HOLBROOK.
A. M. HENDERSON.
G. W. BURK.

SPECIAL CORRESPONDENCE.

VIENNA.

Hospitals and Clinics Abroad and at Home.—Opportunities for Post-Graduate Instruction in Europe fully equalled by those in the United States.—Sanitary Apparatus and Methods at the Berlin Exhibition.—The Abundance of Clinical Material in Vienna.

After enjoying every facility in Berlin and Vienna, as regards hospitals, and especially after an inspection of the Berlin exhibition in the department of hygiene, medicine, etc., I am more than ever of opinion that in America we need ask no favors from anybody, nor make apologies of any kind for our men or our institutions, where they are seen at their best. I do not wish any one to infer, for a moment, that it is unprofitable or uninteresting to study on this side of the water. On the contrary, there is on every hand abundant inspiration for the student practitioner, in the high standard of excellence attained in every possible department. But what I do wish to emphasize is the undoubted fact that we can find as good a clinic of any given kind in such cities as New Yew York or Chicago, as anywhere in the world. And so far as hospitals are concerned, I must say, to put it mildly, I am very proud of our own.

It is more than possible that in some quarters these remarks may be criticized, but for the sake of the many physicians who, for various reasons, cannot manage a long journey and a long vacation, let me say that it is an opinion by no means peculiar to me, and it is, withal, well worthy their consideration. In short, if a doctor can manage to spare time enough to inspect the great hospitals of the world, and at the same time do the lions of historic and scenic Europe, he will not only profit greatly, but also enjoy a magnificent trip. But if he be smitten with a desire to work up any given specialty, or his general knowledge, by all means let him promptly wend his way to one of our own great cities and spend his month or two or three there, according to his leisure

and ambition. The time is assuredly coming when it will be so, and we make no mistake in doing it now. If the matter is uninteresting to readers of THE MEDICAL TIMES, I crave their indulgence, but I have had in mind for years, when the occasion presented, to decide this very question for myself.

With regard, again, to the exhibition in Berlin. I was shown hygienic apparatus, surgical appliances, scientific instruments, and every arrangement necessary for the conduction of a great city, all of which were essentially modern and worthy of their high repute in these matters. As one would naturally expect in the German capital, every attention had been paid to barrack hospitals, both ashore and afloat. And the ambulance system for these, though not A 1, was still very good. In the grounds a model sewage farm was very interesting. It was to be seen in active operation, worked by the drainage from the exhibition buildings, and was a complete demonstration of the irrigation plan, showing the water passing from one tiny lock to another. And at the end of the miniature system of vegetable and flower beds, it flowed forth perfectly clear. There were also full sized models of drainage pipes, with house connections, etc , complete, as well as a working model of the Müggelsee filter and water-works near Berlin.

Here in Vienna, an American physician is treated with cordial courtesy in professional and hospital circles, and finds no difficulty, with a modest knowledge of the language, in making his way, as, indeed, he can all over Europe, without a guide or interpreter. During my first day or two, I spent most of my time going through the City Hospital. My first and strongest impression was that the accommodation was old, and the various appliances less modern and complete than I would look for in such celebrated quarters. But my attention was soon attracted from the buildings to the great extent of the institution and the very large amount of material of all kinds, It would be quite easy to lose myself in the grounds and endless wards arranged about them. If the place has an objection for the student, it would be that he sees too much material and so is, perhaps, less apt to study the routine cases, which will hereafter constitute most of his private practice. E. J. BOYES.

VIENNA, August 5, 1896.

CORRESPONDENCE.

A Misunderstanding Explained.

Sir: Several of my friends have called my attention to the fact that the remarks in my address [*vide* MEDICAL TIMES, Vol. X, No. 7], to the medical graduates of the University of California, concerning "proprietary colleges," were understood to be directed against Cooper Medical College. Such is not the case, for I am firmly of the opinion that both Cooper Medical College and the Medical Department of the University of California, derive a healthy stimulus and a mutual benefit from each other which improves both. The reference was in no sense specific but was general, in its application to the so-called "diploma mills," of which there are already too many in existence.

I am, etc., GEORGE FRANKLIN SHIELS.

106 Stockton street, San Francisco.

REVIEWS AND NOTICES.

PRACTICAL POINTS IN NURSING, for nurses in private practice, with an appendix, containing rules for feeding the sick; recipes for invalid foods and beverages; weights and measures; dose list, and a full glossary of medical terms and nursing treatment. By Emily A. M. Stoney, graduate of the Training School for Nurses, Lawrence, Mass.; Superintendent of Training School for Nurses. Carney Hospital, South Boston, Mass. Illustrated with 73 engravings in the text and 9 colored and half-tone plates. Philadelphia: W. B. Saunders. pp. 456. Price, $1.75.

This is a book intended particularly for nurses in private practice rather than in hospitals; and in addition to practical information on the nurse's duties in the sick room, it contains much wholesome advice as to the relations the nurse should sustain in the household to which she is called. It is gratifying, for instance, to read the following: "A nurse should be as little trouble to the family as possible, and improvise all she can, remembering that they are under very great expense. The same caution should be observed in dealing with the servants. She should be kind to them, and add as little as possible to their work in the kitchen or the laundry." The book covers much ground, taking up nursing in medical, surgical, obstetric, and gynecological cases, and discussing the more common accidents and emergencies, telling briefly what to do for them until the doctor comes. There is also a chapter on physiology and descriptive anatomy; and in the appendix are many recipes for preparing foods for invalids. The book is practical, as its name implies, and can well be recommended by physicians.

MEDICAL NEWS.

LICENTIATES OF THE BOARD OF EXAMINERS.

At a meeting of the Board of Examiners, held September 3, 1896, the following were granted certificates to practise medicine in this State:

Ezra Brooks, San Francisco; Med. Dept. Univ. Iowa, Mar. 3,'86.
Ella Pringle Brown, San Francisco; Med. Dept. Univ. Oregon, April 1,'96.
Howard McDougall Cameron, San Francisco; Med. Dept. Univ. of Cal., May 13,'96.
Edward Gomer Davis, Claremont; Rush Med. Coll., Ill., Feb. 25,'79.
Frank Donaldson, San Francisco; Med. Dept. Univ. Md., Mar. 14,'83.
William Joseph Fretwell, Los Gatos; Missouri Med. Coll., Mo., Mar. 6,'88.
George W. Gilham, Townsend, Mont.: Med. Dept. Univ. California, Nov. 7,'81.
Milla C. Svanoe Lund, Los Angeles; Women's Hosp. Col., Ill., Feb. 24,'74.
H K. McClelland, San Francisco; Med. Dept Univ. Wooster, Ohio., Mar. 18,'71.
Milliard F. Moore, Santa Barbara; St. Louis Med. Coll., Mo., Mar. 7,'79.
J. E. Oliver, Stockton; Jefferson Med. Coll., Pa., April 2,'85.
John Conrad Parr, Los Angeles; Med. Coll. of Ohio, Feb. 27,'59.
Chas. T. I. Rea, San Francisco; Jefferson Med. Coll., Pa., Mar. 15,'59.
J. Lincoln Rogers, Los Angeles; Coll. Med., Univ. Southern Cal., June 3,'96.
Walter R. Scroggs, San Francisco; Cooper Med. Coll., Cal., Dec. 5,'95.
John A. Stewart, Santa Cruz; Royal Coll. Phys. and Surg., Ed., Scotland, April 19,'62; Univ. St. Andrews. Scotland. April 19,'62.
Wm. N. Sullivan. San Francisco; Cooper Med. Coll., Cal., Dec. 6,'92.
Harry Wallace Taggart, Stockton; Marion Sims Med. Coll., Mo., April 2,'96.
Edgar H. Thornton, Portland, Or., Med. Dept. Univ. Oregon, April 2,'92.
Henry John Woodhouse, Pasadena; Jefferson Med. Coll., Pa., April 3,'89.

CHAS. C. WADSWORTH, Secretary.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the U. S. Army (Division of the Pacific) from September 20, 1896, to October 20, 1896.

Captain William Stephenson, Assistant Surgeon, will proceed to Walla Walla, Wash., in time to join the battalion of the 4th Infantry at that point, en route to Fort Sheridan, Ill., as directed in General Orders No. 7, from these headquarters. Par. 1, S. O. 162, Dept. of the Columbia, Oct. 6, 1896.

Captains Euclid B. Frick and George M. Wells, Assistant Surgeons, are assigned to duty with the 3d Artillery, while en route to the Department of the East; the former with the command under orders to move on the 15th instant, and the latter with the command under orders to move on the 13th instant. Upon the completion of the duties herein assigned them, respectively, they will report by letter to the Adjutant General of the army for orders to return to their respective stations. Par. 2, S. O. 120, Dept. of Cal., Oct. 7, 1896.

Leave of absence for fifteen days, to take effect upon his relief from the duty assigned to him in Paragraph 2 of these orders, is granted Captain George M. Wells, Assistant Surgeon. Par. 5, S. O. 120, Dept. of Cal., Oct. 7, 1896.

During the absence of Captain George M. Wells, Assistant Surgeon, Captain Guy L. Eddie, Assistant Surgeon, will perform the duty of examiner of recruits in this city, in addition to his duties at the Presidio of San Francisco, California, making two visits per week for the purpose Par. 2, S. O. 125, Dept. of Cal., Oct. 13, 1896.

First Lieutenant Powell C. Fauntleroy, Assistant Surgeon, is relieved from duty at Fort Grant, Arizona, and ordered to Fort Niobrara, Nebraska, for duty.

First Lieutenant John S. Klup, Assistant Surgeon, is relieved from duty at Fort Walla Walla, Washington, and ordered to Vancouver Barracks, Washington.

Captain William Stephenson, Assistant Surgeon, is relieved from duty at Vancouver Barracks, Wash., and ordered to Fort Sheridan, Illinois.

ITEMS.

Dr. Wilber M. Swett, of San Francisco, assistant to Dr. A. Barkan for the past four years, has gone to Europe to continue his studies in the various medical centers.